



# KEKAL ABADI

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Kekal Abadi memasuki tahun kesepuluh penerbitannya dengan keluaran ini  
*With this issue Kekal Abadi enters its tenth year of continuous publication*



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**WAKTU PEMBUKAAN**

Cuti Panjang : 1 April 1991 - 30 Jun 1991

	Isnin-Jumaat	Sabtu	Ahad/Cuti Am
Perpustakaan Utama	8.00 pagi - 5.00 petang	8.00 pagi - 12.30 tengahari	Tutup
Perpustakaan Majalah Paras 1 hingga 3	8.00 pagi - 5.00 petang 8.00 pagi - 5.00 petang	8.00 pagi - 12.30 tengahari 8.00 pagi - 12.30 tengahari	Tutup Tutup
Perpustakaan Undang- Undang	8.00 pagi - 9.00 malam	8.00 pagi - 5.00 petang	9.00 pagi -2.00 petang
Perpustakaan Perubatan	8.00 pagi - 10.30 malam	8.00 pagi - 3.30 petang	8.00 pagi - 3.30 petang
Perpustakaan Institut Pengajian Tinggi	8.45 pagi - 5.00 petang	8.45 pagi - 12.30 tengahari	Tutup
Perpustakaan Kejuruteraan*	9.00 pagi - 5.00 petang	9.00 pagi - 12.30 tengahari	Tutup
Perpustakaan Pusat Bahasa*	9.00 pagi - 5.00 petang	9.00 pagi - 12.30 tengahari	Tutup
Perpustakaan Akademi Islam	8.30 pagi - 3.45 petang	8.30 pagi - 12.30 tengahari	Tutup

\*Ditutup pada waktu makan: hari Isnin-Khamis, 1.00-2.00 tengahari; dan hari Jumaat, 12.00 tengahari-2.45 petang.

Waktu perkhidmatan pinjaman dan rujukan berbeza. Sila lihat maklumat di papan-papan kenyataan di tempat - tempat perkhidmatan, atau telefon:

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Perpustakaan Perubatan *	7502139, 7502140 dan 7502143
Perpustakaan Undang-Undang *	7572336, 7571066 Samb. 217, 240 dan 241

\*Perkhidmatan ikhtisas diberikan berterusan dari 8.45 pagi - 5.00 petang pada hari Isnin - Khamis; 8.45 pagi - 12.15 tengahari dan 2.45 - 5.00 petang pada hari Jumaat; dan 8.45 pagi - 12.30 tengahari pada hari Sabtu. Perkhidmatan berterusan akan terganggu sekiranya berlaku kekurangan tenaga ikhtisas. Kakitangan ikhtisas bertugas di Pejabat Sirkulasi, Perpustakaan Utama, dari 8.00 pagi - 8.00 malam pada hari Isnin - Jumaat; 8.00 pagi - 3.30 petang pada hari Sabtu dan Ahad semasa semester.



# Rencana-Rencana/Articles

## REVIEW OF 1990-1991

Khoo Siew Mun\*

**Abstrak:** PUM telah mara ke hadapan di dalam beberapa bidang pada tempoh 1990-1991. Sebagai tambahan kepada pernyataan rancangan-rancangan pengkomputeran, beberapa jenis peralatan besar dan kecil seperti kamera-kamera mikrofilm dan unit-unit hawa dingin, peralatan untuk pelajar-pelajar buta, sebuah van dan sebuah peti sejuk, telah diperolehi atau telah diluluskan perolehannya. Perubahan-perubahan kepada bangunan perpustakaan seperti foyer untuk Perpustakaan Utama, tangga dalam untuk menghubungkan tiga paras di Perpustakaan Majalah dan sebuah pondok untuk simpanan van Perpustakaan sedang dibina. Sokongan Universiti atas penubuhan dua buah unit kerja baru; belanjawan buku yang lebih besar; dan perjawatan Perpustakaan yang lebih besar amat menggalakkan. Sesi ini akan berakhir dengan Perpustakaan menyelaraskan sebuah bengkel serantau mengenai pemetaan anjuran IFLA.

**Abstract:** The period 1990-1991 has seen UML progress on many fronts. In addition to realizing plans for computerization, equipment big and small such as microfilming and air-conditioning units, equipment for the blind, a library van and a refrigerator, have been acquired or approved. Physical improvements to library buildings such as the Main Library foyer, an internal staircase linking three floors of the Periodicals Library and a van shelter are being built. University support for establishing two new functional units, a bigger book budget; and a bigger library establishment, has been most encouraging. The session will end with the Library coordinating an IFLA-sponsored regional workshop on mapping.

The Session 1990/91 has been such a significant one for the Library that perhaps it should not go without comment. In matters big and small progress has been made, and for many years to come, users and staff alike will benefit from the achievements of this period.

**Computerization.** The most significant event is computerization of the Library. After a twenty-year struggle, the University finally signed the Agreement on 26 December 1990 with Singapore Computer Services Pte. Ltd. (SCS) and Digital Equipment (Malaysia) Sdn. Bhd. to install the ATLAS package onto the 6410 to computerize on an integrated basis, all aspects of the Library's operations. The event is likely to result in many months of hard work, headaches and expected trial and tribulation. It will, of course, also eventually result in propelling the Library to greater efficiency and give it the ability to offer a wider range of services to its users. To mark this event, this issue of the *Kekal* is devoted to documenting various aspects of the project. For making this possible, we have to thank the Ministry of Education for its understanding, foresight and generosity; the University administrators for their support; and not least of all the Library's Sub-Committee on

Library Computerization, which worked extremely hard and competently on behalf of the Library to bring the exercise to a satisfactory conclusion.

**Airconditioning.** Perhaps as significant, but certainly one which will bring more physical comfort to all who use the Main Library, is the decision of University authorities to change the 30-year old air conditioning plant, which in latter days has been more down than working. In actual fact, the University Council had already agreed in 1989 to purchase a new unit to replace the ancient system, and this was to have been effected in the long vacation of the 1989/90 session. It would appear that someone decided unilaterally that this sum could be 'saved' and the exercise was stopped midway. Subsequently, the expected breakdowns to the air conditioning system, especially during the examination period, forced one and all to take note of the Library's appeals. The relevant files were exhumed and the situation reviewed. In February 1991, Council reaffirmed its past decision, to the relief of all. We thank the current Bursary administration for resuscitating the project and supporting the Library's appeals; and the University Council for their constancy of purpose, even though this delay has probably pushed costs

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\* Chief Librarian, University of Malaya



up by half a million ringgit from the original sum approved a couple of years ago.

**Microform unit.** Like most equipment in the Library, UML's microfilming and microfiche equipment dated back to the 1970s. By the late 1980s, frequent breakdowns were experienced, causing inexcusably long delays in UML's supplies of microforms to sister institutions and users. The University authorities generously approved \$117,400 in 1989 for a total system. The equipment, which arrived in May 1990, consisted of a microfilm camera, a microfiche camera, a processor and various basic accessories. The system has so far given endless problems, associated mainly with the ignorance of all concerned in the proper methodology of using it. In April 1991, the vendors brought in German expertise; and with the promised replacement of the faulty parts in the processor, the system should be able to perform to expectations.

**Arkenstone Reading System.** This is a computer learning system which makes it possible for the blind to 'read' the text of articles and books. The system comprises scanning and reading software and a braille embosser. As a page of text is scanned in, the image is digitised and stored. It can be displayed on the monitor or mechanically read out with a very high degree of accuracy. The Embosser is able to print the text in braille format. Thanks to the generosity of Malayan Banking Sdn. Bhd., the Library will be given the total system before the new session begins. The total gift will cost Maybank M\$60,000. The Library and its blind users have cause to be grateful indeed.

**Library van.** As with any library system of the size of UML, an enormous amount of fetching and carrying, despatching and collecting, has to be attended to daily. The means of transport is crucial to these activities. In its 30 years of existence, the Library has been given two vans. The first was a tiny Bedford Harimau (WD8392) which succeeded the Library's first vehicle, a three-wheeler. In 1982, an 'almost-new' Combi van, WAD112, which had been used for about a year by the Estate Office, was given to the Library to replace WD8392, which by then was both inadequate and dangerous to use. By the late 1980s, signs of wear and tear were more frequently shown, and the van was only able to keep going due to constant repairs and maintenance being carried out, and much care and attention being lavished upon it by the driver. Thanks to the support given to the Library by the Estate Office, the current Bursary administration

and Finance Committee, WAD112 was replaced in 1991 by a new Toyota Liteace (WCF 1087), a four-seater with adequate storage space, and which is fairly robust. In April 1991, Library requests for a shelter to be built for the Library van were also heeded and approved by the Estate Office.

**Refrigerator.** In March 1991, to help the Library staff face the long hot summer before the air conditioning plant is installed, the Estate Office made available an almost new fridge. This has been gratefully installed in the Conference Room.

**Foyer.** In conjunction with computerization, the library foyer, particularly the present clumsy and bulky counter area, had to be redesigned. The Library's proposals and plans have been approved and works will be carried out in mid-1991. For this, we should record our gratitude to the University administration, the Bursary and the Estate Office.

**Internal staircase.** For years now, the Library has been suggesting that an internal staircase be constructed to link the lower three floors of the Periodicals Library. This staircase would be convenient to both users and staff, and will alleviate the current problem of staff shortages, as it is now only necessary to man one counter instead of three. This was finally approved in early October 1990; work began soon after; and the staircase will be ready for use by the new session.

**New units.** The Automation Unit which was officially established in October 1989, consolidated its operations in 1990/91 with the loan of a Systems Analyst from the Computer Centre; a Technician (from Audio-Video Division); and a Typist (from Acquisitions Division), who is now well-versed in desktop publishing.

In May 1991, the Official Publications Section will be officially established and will move to permanent quarters on Level II of the Library's Phase IV Building. Simultaneously, the Malaysian Periodicals section will be created, housed on the same floor. The University Archives with the Library's existing stocks of UM documents will also move to the same area established. However, due to staff shortages, it is unlikely to see many leaps forward for a little while to come.

**Binding backlog.** For years now the Library has been plagued by a backlog in the binding of its periodicals which has proved a nuisance to library users. By 1990, the Medical Library also faced a



6,000 volume backlog; the rest of the system, some 13,000 volumes. By dint of appeals, threats and reorganization of work processes, the decade-old backlog in Medical Library has been vanquished. A 'solution' of half-binding the main periodicals collection in such a way as to keep issues together within soft covers means that by July 1991, the rest of the backlog will also be overcome. The only backlog has been that mutilated copies from open stacks could not be properly repaired. However, Circulation staff showed tremendous enterprise in attending to this problem, and during the long vacations have repaired thousands of volumes.

**Cataloguing backlog.** Those of us who are a little more ancient will remember the horrendous cataloguing backlogs of the late 1960s and 1970s. The special project undertaken in 1976 to rid the Library of its recorded 35,000 volume backlog succeeded in clearing 27,000 volumes over four months. But the problem was never completely solved. In 1991, with a combination of factors such as better technology, systematic work processes (and yes, alas, smaller book votes) the backlog was finally totally cleared up. We congratulate the Cataloguing Division for a job well done. Such is their confidence that no backlogs will recur again that book shelves lining the walls and standing in the middle of the division have been entirely dismantled!

**The book budget.** Although the 1991/92 budget is only marginally better than the 1990/91 budget, the \$500,000 increase will permit some books to be bought to support teaching and new courses. The main thing to be grateful for is the obvious feeling of support for the Library especially by Chairman and Members of the Library Committee. It is apparent that if funding is available, the Library will strongly be supported to obtain some of it. The Library hopes to request additional funding later in the year. In the meantime, for the first time in years, requests for new journals are being entertained for possible subscription.

**Posts.** For close on to ten years now, the Library has seen no significant increases in posts despite the considerable expansion to the library system and the many enhancements in services within it. In April 1991, the University administration agreed to support Library requests for 34 new posts in all categories for its system of 10 libraries in the 1992 budget. We realize that this is subject to all manner of approvals from funding government agencies. The crux of the matter is that, the Library remains

grateful that within its own University, its problems are being recognized. Thus even if not a single new post is given, we would continue to give of our best, knowing that if this is not the best that the user deserves, at least the causes are known and recognized by the top-most rungs of the University administration. It is an encouragement indeed.

**Additional library space.** Positive results can be recorded for library efforts to (a) regain the use of space lent to other users; and (b) obtain additional, new space. (a) In early 1991, an excellent beginning was made by the newly established Academy for Malay Studies, which cooperated very closely with the Library in planning the use of the Muzium Etnografi Melayu. For the first time in two decades the area will be used jointly by the two departments for exhibitions, to house research collections and for other academic activities. In addition, from discussions with the Chairman and Board members of the Kedaibuku Koperatif Universiti Malaya it would appear that KKUM is prepared to move out from the Library building into their own building which will be planned for 1992. (b) The Library made a request, once more, in 1990 for a new building, as the request made under the Fifth Malaysia Plan was not entertained. The Library has been assured that the University will consider this as one of the priority items once allocations under the Sixth Malaysia Plan have been made known. This will be planned for 1992.

**IFLA Workshop.** The academic year will end with the Library coordinating an IFLA-sponsored regional Workshop on Maps, Spatial Data and Conservation, scheduled for 17-21 June 1991. The Workshop will see a panel of international and Malaysian Resource Persons and participants from all over Southeast Asia meet over a hectic five days to learn from and interact with each other. The Workshop will be opened by YB Dr. Fong Chan Onn, Deputy Minister for Education; it will be closed by Dr. Haji Taib Osman, Vice-Chancellor, University of Malaya.

**Conclusion.** All these activities and projects have been possible only with the goodwill and assistance of many. With the continuing support of Library Committee, faculty, and administrative sections, the Library can more confidently take on the new tasks that the new session will bring. On behalf of the Library, I should wish to most gratefully record our thanks to all who have so generously contributed their time, attention, efforts and expertise to our development.



## UML Computerization: Some Random Recollections

Professor Lee Poh Aun\*

The UML Computerization project is in the midst of its implementation schedule.

The various phases of the project can be likened to a four-Act opera as shown below:

Opera	UML Project
Overture	Conceptualization, fund application and approval.
Act 1	Systems analysis and design, tender specifications.
Act 2	Tender evaluation, award and negotiation. Implementation.
Intermission	
Act 3	Testing and monitoring.
Act 4	Enhancement and future expansions.

The only imperfection in the analogy is that while in the opera, Acts 1 and 2 usually take one hour or so, those of the UML Project took 10 years!

Now that the overture, Act 1 Scene  $x$ , integer  $x \leq 15$ , Act 2 Scene  $y$ , integer  $y \leq 20$  (pardon the lingua, a force of habit) are all over, we are in the intermission, awaiting the curtain to rise again for the subsequent Acts on stage.

During the intermission, one usually has three options:

1. Listen to the light intermezzo in some opera; or
2. Sit back to reflect on the beautiful arias, duets or choruses in the first two Acts; or
3. Go for a drink or do some chit-chatting.

In inviting me as Chairman of the Subcommittee on Computerization (later metamorphosed into the Tender Evaluation Committee and then the Tender Negotiation Committee) to write for the current issue of the **Kekal Abadi**, Mrs. Khoo Siew

Mun, the Chief Librarian has literally chosen option 2 for me in the intermission. I shall do some reminiscing and try to recount rather randomly some eventful happenings in the Committee I chaired.

In addition to Mr. Teh and Mrs. Khoo from the Library, the Committee consisted of colleagues from the Engineering Faculty and the Computer Centre with relevant experience in computer hardware, software, data communications and operating systems. It was considered one of those rare "power-packed" subcommittees at that time. My job as Chairman was therefore both enjoyable and satisfying. Many meetings were held by the Committee. These meetings, some extremely lengthy, were made bearable and at times enjoyable by the congenial and light-hearted atmosphere prevailing and not the least of all, the nice coffee, tea, local cakes and delicacies provided kindly by Mrs. Khoo. The business of the Committee was always conducted in the best academic tradition with decisions arrived at more or less by consensus. I certainly do not recall the need to call for a vote to resolve any dead-lock issue.

The library system was designed *ab initio*. No reference model was used. Initially however, we did have the benefit of gaining some insights into the functionalities of the proposed system from mounting a semi-RFP (Request for Proposals) when 20 or so vendors were invited to show their offerings in this vertical application. Input to the library system in terms of its main functions and operational characteristics was provided by the librarians, who after all are experts in this area. The Committee's job was tantamount to specifying a computer platform with the requisite software and to dovetail the two to achieve the objectives of the librarians. After due deliberations, the Committee decided to adopt a **Dedicated Turn-Key Integrated System** approach. This, in retrospect, was the singularly most significant early decision by the Committee, and paved the way for rapid progress toward the final specifications of the eventual system. This was thought to be a prudent decision then on account of the fact that a library

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\* Pengarah, Pusat Komputer, Universiti Malaya



information system is a very specialized, complex and large vertical application. Programming effort, testing and quality control would be extensive. With the limited pool of expertise existing at that time, there was very slim chance that the job could be undertaken in its most professional manner. Moreover, even if it could be done at all, there would still be the uncertainty of the delivery date; delay was something that the Library could ill-afford. Taking all these and other considerations together, that was the decision, and I believe it is still the correct solution now.

It was estimated that a total of 100 terminals would be required in the main and other branch libraries. Realizing the advantages of "intelligence" inherent in personal computers (as opposed to "dumb" terminals), for good measure, we specified a total of 15 PCs (later trimmed to 5) amongst the 100 terminals. System sizing and files calculations with due attention paid to terminals overhead and response time then determined the final configuration of the computer system in the ensuing meetings of the Committee. The final specifications that emerged were for a 32-bit CPU high performance computer with 96MB main memory (later augmented to 128MB), a disk capacity of at least 2.5GB together with the necessary associated ancillary and peripheral equipment. Excellent connectivities and conformance to standards were also features considered desirable. For future expansion and to obviate the lengthy and bureaucratic 'overture' phase, the computer system was also required to operate a total of 300 terminals with no major change in the systems configuration, software and operating system.

In the evaluation phase some rather novel methodologies were employed. First of all, it was generally realized and agreed upon that the library software should be given more weight in comparison to the hardware. What was not clear however, were the various weights to be allotted to the constituent components of the library software. It was therefore decided to conduct a sort of Gallop poll among the librarians and the technical staff in the library. The 'sample' estimates obtained subsequently were used as 'population' parameters in the weighted average calculations to arrive at a figure of merit. This rather scientific approach helped to reduce the subjectivity which would be invariably attached to loose and *ad hoc* value judgments.

These then are my random reflections of some of the beautiful arias (I guess we all know who the coloratura Soprano was), duets or choruses I heard in Acts 1 and 2. I am sure the curtain will soon rise again to unfold the remaining Acts to bring a nice conclusion to the opera. I am sure, because the UML implementation schedule stipulates a strict 6-month timeframe.

I have tremendously enjoyed my position as Chairman of the Subcommittee. I must thank the members of that long-lasting Committee for their selfless devotion and professional service in helping to usher in the new computerization era for the oldest library in this country. Last but not least, I am sure I speak for all the members concerned that we have all greatly enjoyed the hospitality of the library provided through the good office of its Chief Librarian Mrs. Khoo Siew Mun.



The Vice-Chancellor exchanging documents with the General Manager of Digital Equipment (M) Sdn. Bhd. at the official signing of the Sales & Purchase Agreement



## COMPUTERIZING UML: A PROTEAN SAGA

Khoo Siew Mun\*

**Abstrak:** Rancangan untuk mengkomputerkan PUM telah mengambil masa dua puluh tahun sebelum menjadi kenyataan. Usaha-usaha awal pada tahun-tahun tujuh puluhan ditujukan kepada kerja-kerja khusus seperti sirkulasi dan pengatalogan. Pengkomputeran proses-proses pengatalogan dibuat secara luar talian, ragam kelompok dan pemerosesan di luar. Pengkonseptualan pengkomputeran untuk semua proses perpustakaan pada asas terkamir, merangkaikan keseluruhan sistem perpustakaan Universiti, dengan komputer berdedikasi yang bertapak dalam Perpustakaan, hanya bermula pada tahun-tahun lapan puluhan. Ketiadaan peruntukan kewangan telah menyekat perlaksanaannya selama lebih satu dekad. Pada 1989, dengan peruntukan yang secukup daripada Kementerian Pendidikan, PUM berjaya mengeluarkan tender untuk satu sistem turnkey seperti yang diramalkan, dengan rangkaian penyelesaian luar mandatori kepada Perpustakaan Negara Malaysia dan MIMOS. Bagi kejayaan projek ini sehingga tahap ini, Perpustakaan berhutang budi kepada banyak agensi, pertubuhan dan orang-orang individu, tidak ketinggalan juga Jawatankuasa Kecil Mengenai Pengkomputeran Perpustakaan, yang telah berkhidmat kepada PUM selama sepuluh tahun.

**Abstract:** It has taken twenty years to realize UML's computerization plans. Initial plans in the 1970s were targetted at specific library tasks such as circulation and cataloguing. Solutions for the latter, when realized, were offline, batch mode and meant away processing. Conceptualization for computerization for all library processes on an integrated basis, linking up the total university library system, with dedicated computers sited within the Library, dated from the 1980s. Lack of funds prevented implementation for over a decade. In 1989, with adequate allocation from the Ministry of Education, UML was able to tender successfully for a turnkey system as envisaged, with mandatory external link solutions to the National Library of Malaysia and MIMOS. For the success of the project up to this point the Library remains indebted to many agencies, bodies and individuals, not least of all, its Sub-Committee on Library Computerization, which has served UML for ten years.

The history of computerizing the University of Malaya Library (UML) is a long and convoluted one. Over the twenty years of its implementation, it has seen many changes in terms of

- a) conceptualization and perspective;
- b) scope and function; and consequently,
- c) type, configuration, capability and cost of software, hardware and communications.

### Salad Days

The Malaysian professional corps have felt the need for automation from very early days. The magic of automation has long attracted their attention and sustained their interest. Staff at UML have similarly felt the need to computerize the Library.

The first tentative move towards computerization was taken in 1972 when the Library Committee

made available \$7,000 to pay for the services of a Systems Analyst from the University's Computer Centre, to undertake a feasibility study for library automation. The study was to be conducted by a Systems Analyst, Mrs. Lee Sau Lan, who was soon after appointed as a Lecturer at the Computer Centre, became immersed in teaching, and nothing more was heard of the report. However, she had basically recommended that a Systems Analyst be placed in the Library, full-time, to implement plans for automation. Requests were made to the Centre to make available such a person. The Centre, which itself had only a skeletal staff, pleaded a lack of manpower resources. There the matter rested for a couple of years.

In 1974 input from universities in the form of requests for developmental grants was invited. The Librarian made a bid for computerization. He requested \$300,000 under the Third Malaysia Plan,

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\* Chief Librarian, University of Malaya



1976-1980, for the purpose of automating the work processes of the Circulation Division. Details of the application were as follows:

Alat kelengkapan, alatulis permulaan, kerja memasang dan kerja proses permulaan:	\$300,000
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Kos perjalanan:	\$ 21,000
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**Source:** 'Rancangan Malaysia Ketiga, 1976-80', Letter of the Librarian, Mr Beda Lim to the Bursar, University of Malaya, dated 23 December 1974.

No supporting documents were submitted on specific cost estimates, but equipment and stationery needed were described:

- 'sebuah mesin besar' that is: 'data processing machine' and
- supporting equipment such as 'input devices' and 'read out viewers', and 'light sensitive pens'.
- Bar code labels were indicated as being needed.

This request was again not successful; and computerization plans waned for another five years. With the submission for requests under the Fourth Malaysia Plan, 1981-1985, the Library made a case for \$740,000 for the following configuration:

#### Perbelanjaan

1. Sistem data catatan dengan 8 cawangan stesen.	\$150,000
2. 2 Disk (250 megabyte)	\$210,000
3. 16 terminal )	
4. 4 pencetak )	\$380,000
Jumlah:	<hr/> \$740,000 <hr/>

**Source:** 'Perpustakaan Universiti Malaya: Keperluan Komputer dalam Rancangan Malaysia Keempat' submitted by the Librarian, Mr. Beda Lim in November 1979.

For the first time an 'online service' was envisaged and it was hoped that both administration of the Library as well as technical processes such as cataloguing, acquisition, serials administration, together with information retrieval and compilation of bibliographies, would be taken care of. For the first time, a computer network between the Main

Library and three branch libraries, the Medical, Law and Institute of Advanced Studies, was conceptualized. This was perhaps more of an expression of desire rather than feasibility, as it is rather unlikely that the above configuration, with machine power at that point in time, could have coped with these demands.

Perhaps the most significant development of the 70's was UML's participation in the MALMARC pilot project. In 1977, a UNESCO expert, Mr. Stephen Massil submitted a report which recommended amongst other things that:

The National Library, in co-operation with the libraries of the five Universities, should set up a Project to use MARC tapes for cooperative processing in Malaysia.

(S.W. Massil, 'Study of the Feasibility of Using Marc Tapes for Co-operative Processing', Restricted Technical Report RP/1975-76/4-221-2, Paris, Unesco, 1977, p.7).

Subsequently a UNESCO grant of US\$35,000 was made available to implement the MALMARC project as a pilot project. In 1977, the MALMARC pilot project was launched with USM as the node and UM, UKM, UPM, UTM and the National Library as participating libraries. With this step the cataloguing of materials in five institutions of higher learning and the National Library was tested under a joint cataloguing scheme with Malaysian MARC standardization. This project was to last a year, February 1978 to October 1979.

Unfortunately UML decided to withdraw from the MALMARC project after the pilot stage. The decision was made on the basis that:

- a) no money could be found to fund UML's participation in the ensuing MALMARC Consortium, and
- b) cataloguers felt that the process was slower than manual cataloguing.

The creation of bibliographic records in machine-readable format which is feasible under MALMARC but not feasible under any manual system seems to have been overlooked. With this decision, UML lost a few good years in data creation via the cataloguing process for the entire system. That this period of 1979-1981 coincided with a heavy period of large expansion in the library stocks made the event even more regrettable.



UML was to rejoin MALMARC only in September 1981 for the beginning of 1982. Participation from MALMARC was to continue until the Consortium ended in late 1990.

### **The 1980's: Towards Integrated Computer Applications to Library Processes**

Where the 1970's were marked by tentative and partial computer solutions to library processes, the 1980's saw UML conceptualizing library computerization on a larger and more integrated scale. By then, computer technology itself had advanced; the availability to the local market of integrated library software packages was apparent. The success of the MALMARC project at USM provided a sound basis for optimism, confidence, and expertise. The early 1980's were marked by a few fundamental developments to computerization, which were to prove vital for UML.

1. **Integration and independence.** Moves were made for computerization, on an integrated basis, of all technical processes of the Library. Information retrieval and open access catalogues were planned. Suitable equipment were not only conceptualized to be dedicated totally to the library project, but were also planned to be located entirely in the Library.
2. **Sub-Committee on Computer Services in the Library** (hereafter called the 'Sub-Committee'. See Appendix I). As computer science expertise was lacking within the ranks of the library staff, and the fact that library computerization for UML on the scale envisaged would mean knowledge of hardware, software and communications, the Library, with the blessing of the Library Committee, established in 1982 a Sub-Committee to advise it on all matters related to computerization. To the relief of the Library, Professor Lee Poh Aun, Professor of Mathematics, and then the Head of the Mathematics Department, who had wide-ranging experience and interest in computer applications, consented to be the Chairman. Input from the Faculty of Engineering and the Computer Centre were sought, and to the gratitude of the Library, were given. At that point in time, it was thought that the Sub-Committee would have a lifespan of a few years in an advisory role, giving their expertise

to planning and implementation, which then seemed imminent. Little were the members to know that their services would be constantly called upon, in literally hundreds of meetings - over the next ten years!

3. **MALMARC rejoined.** In late 1981, UML rejoined the MALMARC consortium; with 1 January 1982 as the effective date. By the time UML's system is commissioned in 1991, some 100,000 machine-readable records created under MALMARC participation will be available for consultation.

### **Tender exercises**

UML has been one of those unfortunate libraries which have had to undergo two massive Tender exercises (both of which were anything but tender!) and innumerable requests for minor funding in-between the two exercises, most of which were unsuccessful.

The year 1984 saw the first slice of welcome news: \$300,000 had been approved for library computerization under the Fourth Malaysia Plan. The Sub-Committee immediately met to draw up a comprehensive and detailed set of specifications for a Tender exercise. The specifications were approved by Malaysian Administrative Modernisation and Manpower Planning Unit of the Prime Minister's Department (MAMPU); the Tender was advertised; demonstrations of hardware and software were held with all tendering vendors; and the Tender was evaluated by August 1985. Unfortunately, Library expectations of their funding far exceeded the realities of the market as provided by the vendors. No viable solution was possible within the allocation. Sadly, the Tender was allowed to lapse; and the Library was back to the drawing board.

### **Interim period 1986-1987**

While waiting for more manna to fall, UML pressed forward with its plans, feeding on hope and sustained by the surprisingly tenacious and infectious enthusiasm of its Sub-Committee members! This was despite the clear message from University authorities that:



- a) no funds would be available from the University of Malaya
- b) no funds were also available from outside the University to help the project along.

UML thus made do with the purchase of a few microcomputers. These were obtained from funding generated by the Library itself: through sale of library publications, photocopies, microfiche and microfilm. Even sums from the lowly scrap paper sales were not spared, but were added as drops of financial support to the Library's 'Sundry Account' which was to be sole source of funding towards the purchase of PCs and printers.

If such purchases were not impressive, they at least served a very useful purpose. They provided the professional staff with the necessary tools for experimentation with different software packages, and experience in database creation. As important, they afforded different categories of general staff: clerks, typists and others, with hands-on computer knowledge. Hence, experience with input and output of data; executing relevant computer commands; and intensive use of basic software packages such as Wordstar, dBase and CDS/ISIS over a period of time have served to make the library staff less fearful of machines and more willing to learn newer and more advanced functions. By the time UML commissions its CPU for overall computing, the staff would have had almost six years of training at these independent micro stations.

#### 1988-1990

The realization of modern computerization for UML rests entirely on one historic meeting between YB Datuk Seri Anwar Ibrahim, then the Minister for Education, Malaysia, with Heads of all local institutions of higher learning to which all the Librarians were also invited to attend. The meeting was called by the Minister on 22 August 1988 to coordinate the use of libraries in local institutions of higher learning.

The historic decision taken by the Meeting emanated from the Chair and in essence stressed the need for wider computer applications in all these academic libraries, including networking with each other, with the National Library and with the Malaysian Institute for Microelectronic Systems in the Prime Minister's Department (MIMOS).

The Acting Vice-Chancellor, Prof. Khairuddin Yusoff, acted upon this decision, and in a letter of 4 November 1988 requested the Ministry of Education's help. The Ministry responded magnificently. On 17 January 1989, the Ministry approved the application for automation by the Library, University of Malaya, the oldest academic library in the country, and the most backward in terms of computerization, being the only academic library to have had many plans, but no machines worth talking about!

The Sub-Committee once again swung into action. A new set of Tender specifications were drawn up to reflect expanded needs and the new technology available as at 1989; and basic guidelines and procedures established for subsequent evaluation of the Tender. By the beginning of February 1989 the 40-page 'Specs' were ready; and on 16 February 1989 the Tender was advertised. On 6 March, an open briefing was held for all likely and interested vendors who met the Sub-Committee, the Library, the Estate Office and Bursary officers to clarify various aspects of the Tender and its specifications. The principal point made by the University was that the Tender was for a **turn-key system**: the successful Tender must offer an integrated solution to all library processes on a turnkey basis. The Tender closed on 22 March 1989; and demonstrations by all eight tendering vendors were held between 13 April to 18 May 1989, which were attended by library professional staff and Sub-Committee members. Subsequently, the Sub-Committee devolved into a Tenders Evaluation Committee (hereafter called 'the Committee'). For this part of the exercise, an invitation was extended to the Bursar, whose representative was able to render invaluable advice on financial procedures. The Director of the Computer Centre also kindly accepted the invitation to serve and was able to impart professional expertise.

Evaluation of the Tender was basically split into three parts:

- i) Evaluation of the software (which carried the heaviest weightage), was done by the Library professional corps.
- ii) Evaluation of hardware, and
- iii) Evaluation of communications solutions offered by the vendors were done by those members of the Committee who had the relevant expertise.



Evaluation of the Tender was undertaken purely as a technical exercise and the Committee did not take financial implications as a consideration to weigh in favour of or against any vendor. The 'Report of the Tenders Evaluation Committee, Library, University of Malaya' was submitted to the University authorities in August 1989. In between the Committee had to seek clarifications from vendors, who often had to refer back to their principals abroad; work out criteria for evaluation; and prepare the Report. MAMPU's approval was obtained in June 1989.

The configuration and capability of the System is described below. It is sufficient here to note one significant difference between UML's Tender Specifications and those of other libraries. UML made it a mandatory condition for the successful vendor to provide satisfactory linkage solutions with two external agencies: the National Library of Malaysia and MIMOS as the latter is designated the nation's future coordinator for networking research databases and information.

The University authorities gave the matter priority consideration. By the end of August 1989 the Tender Board had considered, met and awarded the Tender; and a Letter of Intent issued to Computer Base Sdn. Bhd. to acquire the ATLAS software package and the Digital VAX 6410. By November 1989, all further negotiations had been undertaken and the Tender was awarded on 9 November 1989. In preparation for the tasks ahead, the Library formally established its Automation Unit in October 1989, with Mr. Teh Kang Hai, who had *de facto* been working as the Secretary to the Sub-Committee and the Committee since 1982 with total professionalism and dedication, as the Head of the Unit, without any form of remuneration.

### Into the 1990s

If the Library thought that the first year of the new decade would see UML automated, it was again disappointed. Once again, echoing its chequered history, UML ran into more delays. Chief amongst the problems was a series of protracted discussions over the nitty-gritty of each and every clause of the Sales and Purchase Agreement.

By this time, the long-suffering Sub-Committee on library computerization (to advise on computerization), alias the Tenders Evaluation Committee (to evaluate the Tenders exercise), alias the Ten-

ders Negotiation Committee (to get the best deal for the Library), was charged with the ensuing task of ensuring that a Sales and Purchase Agreement would be drawn up which would best protect the future interests of the Library. For this part of the exercise, the Committee and the University lawyer performed yeoman service.

Endless meetings and innumerable drafts later, UML faced further delays while awaiting the outcome of a corporate takeover involving one of the vendor-parties. All these events served to delay the exercise by a whole year. Finally, on 26 December 1990, at a simple 20-minute signing ceremony, the Acting Vice-Chancellor, Dr. HJ. Mohamed Taib Osman signed the Sales and Purchase Agreement on behalf of the University, witnessed by Tunku Shamsul Bahrin, a member of the University Council, as is required by the financial procedures of the University. Sub-Committee/Committee members who were able to attend included the Chairman, Professor Lee Poh Aun; Associate Professor Dr. K. Arichandran, Mr. Jimmy Chong of the Computer Centre; Mr. Hubert Kok, the Acting Bursar; Mr. Teh Kang Hai, Head of the UML's Automation Unit; and the Librarian.

### Concluding Remarks

In the early 1970's, computerization was envisaged as a piece-meal solution tackling one or the other process. Solutions were offline, batch-mode, and envisaged as using computers located outside the Library: at the University's Computer Centre, or at other locations. In part this situation was determined by the state of technology; influenced and guided by solutions adopted by other libraries; and restricted by the availability of funds and machine models available in the Malaysian market at that time. However, in part, a certain lack of foresight and courage within the Library was also evident, thus opportunities were not maximized.

By the time UML's vision expanded, so had the financial responsibilities of the Government. Education at all levels had to be increasingly supported; economic pessimism consequent to the 1974/75 and 1985 recessions prevailed; and UM's halcyon days for funding were over as it had long ceased to monopolize the higher education scene. This was the period coinciding with UML's plans to automate all processes within the Library on an integrated basis and network all branches, providing online-access for the total system.



The late 1980s marked a more mature period of planning, supported by better communications solutions and computer technology. Thus computerization for the future was planned not only on an integrated basis and networking all seven branch libraries, but also to link up with eighteen Academies/Centres/Faculties/Institute; eight student hostels; and all administrative departments on campus: altogether a feasibility for 100 terminals in the first phase; 300 in the second.

Finally, links with external agencies such as the National Library and MIMOS is mandated. Through MIMOS via networks such as JARING (Joint Academic and Research Integrated Networking Project) UML will eventually be linked in one way or another with all major research points within the nation.

No documentation can capture the vast amount of work that has gone into UML's computerization project; or reflect truly the agony and stress, the

frustration and disappointment throughout the project, or the joy and jubilation and sweet relief at the signing of the Final Agreement. To arrive at this point, the Library has enjoyed the kindness and cooperation of many. They have given freely of their time and ungrudgingly of their expertise. They have borne with us all manner of setbacks and delays with patience and good humour, as the Chairman's opening remarks testify. We are totally in their debt; and to all of them, we say a heartfelt '*Terima kasih; kecil tapak tangan nyiru kami tadahkan*'.

Much more work now needs to be done. Ahead too, will certainly lie further sloughs of despond. The Library is ready to accept those challenges, for no staff surely should be better prepared. And why should we not be? Our Sub-Committee/Committee members have reavowed their readiness to help - only this time it will be to help the Library implement the project! Some people just never learn!

## Appendix I

### Subcommittee on Library Computer Services (As established in April 1982)

Chairman: Professor Lee Poh Aun (Head, Department of Mathematics)  
Members: Mrs. Khoo Siew Mun (Chief Librarian)\*  
Dr. Mashkuri Haji Yaacob (Faculty of Engineering)  
Assoc. Prof. Ang Ha Ming (Faculty of Engineering)  
Assoc. Prof. Lim Jit Chow (Faculty of Engineering)  
Raja Noor Ainon Raja Zainal Abidin (Computer Centre)  
Mr. Jimmy Chong How Liang (Computer Centre)  
Dr. Nah Soo Hoe (Institute of Advanced Studies)

Note: \* Also acted as Secretary to the Subcommittee

### Subcommittee on Library Computer Services\* (As at submission of the Tender Evaluation Report on 9 August 1989)

Chairman: Professor Lee Poh Aun (Professor of Mathematics)  
Members: Mrs. Khoo Siew Mun (Chief Librarian)  
Assoc. Prof. Dr. Mashkuri Haji Yaacob (Director, Computer Centre)  
Assoc. Prof. K. Arichandran (Faculty of Engineering)  
Mr. Hubert Kok (Deputy Bursar)  
Mr. Jimmy Chong (Computer Centre)  
Mr. Yew Kok Meng (Computer Centre)  
Secretary: Mr. Teh Kang Hai (Head, Automation Unit, UML)

Note: \* This Subcommittee also served as the Tenders Evaluation Committee



# Library Automation of University of Malaya Library System: The Hardware Component and Environment

Andrew Lee\*

**Abstrak:** *Perkakasan-perkakasan buatan Digital Equipment merupakan sebahagian besar daripada perkakasan dalam rancangan pengkomputeran sistem Perpustakaan Universiti Malaya (PUM). Unit Pemprosesan Pusat (CPU) ialah sebuah modul komputer julat pertengahan Digital VAX6410. Perkakasan-perkakasan buatan Digital yang lain ialah saluran terminal, stesyen kerja dan peranti storan. Perkakasan-perkakasan buatan pihak ketiga adalah sumber bagi pemultipleks modem, pencetak dan alat membaca kod berpaling. Satu suasana Rangkaian-Kawasan-Tempatan (LAN) yang menggunakan protokol perhubungan Ethernet menghubungkan bahagian-bahagian di Perpustakaan Utama. Perpustakaan-perpustakaan cawangan dirangkaikan kepada Perpustakaan Utama melalui pendawaian telefon dengan pemultipleks-pemultipleks dan modem-modem yang bertempat di Perpustakaan Utama dan Perpustakaan cawangan masing-masing. Berbagai barangan yang lain seperti label-label kod berpaling dan perabot stesyen kerja juga telah diperolehi. Kerja-kerja sivil kecil seperti membina Bilik Komputer, pemasangan elektrik, pengubahsuaian kepada kaunter-kaunter perkhidmatan adalah perlu demi memastikan bahawa rancangan pengkomputeran tidak tertangguh. Perbincangan dari masa ke semasa di antara sistem PUM dengan pembekal utama diadakan demi mengkaji kemajuan dalam pelaksanaan.*

**Abstract :** *Digital Equipment products form the major hardware component of University of Malaya Library (UML) system computerization programme. The Central Processing Unit(CPU) is a Digital VAX6410 mid-range computer module. Other Digital products are the terminal servers, workstations and storage devices. Third-party products are sourced for multiplexers, modems, printers and bar-code readers. A Local-Area-Network (LAN) environment using an Ethernet communication protocol connects the various departments in Main Library. Branch libraries are linked to Main Library via telephone lines with multiplexers and modems located at the Main Library and branch libraries respectively. Various products such as bar-code labels and workstation furniture are also acquired. Minor civil work such as the construction of the Computer Room, electrical installations and modifications to service counters are also necessary to ensure that the computerization programme is not delayed. Periodic discussions between UML and the principal vendors are held to review implementation progress.*

## Introduction

The hardware component on which the ATLAS (A Total Library Automated System) library software will operate is a Digital Equipment Corporation (DEC) VAX6410 mid-range computer system. The hardware environment proposed by DEC is based on a Local Area Network (LAN) configuration using DEC's equipment and other third-party hardware and peripherals to link the various departments and libraries to the VAX6410.

The VAX6410 system meets the present and near future requirements of UML (University of Malaya Library) system. The VAX6000 series is a proven, reliable and versatile computer system which is able to fulfill many different needs. A full

and wide range of upgrade options is available to cater to the increasing organizational demands and needs. Enhancements of processing performance and/or storage capacity is possible with minimal changes to the present base system. The only delimiting factor to the VAX system potential seems to be the availability of funds by the organization!

## Hardware : Types and Specification

The hardware components for the initial stage of UML's computerization programme are in **Table 1** below. The hardware components and peripherals consist of DEC products and associated third-party products.

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\*Librarian, Engineering Library



**Table 1. UML's Computerization Programme : Hardware Component and Units**

Type (Make)	No. of Units
1. VAX6410 (4 Disk array) 2.5 GBytes	1
2. Tape drives	2
3. Line printer (1200 lpm)	1
4. Terminal servers (DecServer	
5. DS200/6/8 ports)	23
6. Multiplexers (Mux 104 & 105)	18
7. Modems (Nokia DS3610) 21	
8. Workstation (VT320 Video terminal and keyboard)	100
9. Dot matrix printer (Ok!	
10. Microline 393 24-pin)	5
11. Microcomputers (Lynx 286/12, 40 MB h/disk)	5
12. Bar-code readers (Intermec)	15

The VAX6410 used by UML is a 32-bit system with single vector processor with a memory of 128 MB. Memory can be added up to 512 MBytes in 32, 64 and 128 MB increments. The VAX6410 system in brief is as shown in Table 2.

**Table 2. UML's VAX640: Brief Specifications**

1. Performance	7*
2. No. of vector processor	1
3. Main memory	128 MB
4. Max. I/O throughput	80 MB/s
5. Disk drives	4
6. Disk capacity	2.5 GBytes
7. Ethernet connections	

\* 7x the performance of the VAX-11/780 system

The VAX6410 runs on the VMS (Virtual Memory System) operating system (version 5.4). VMS provides among other features, reliability, system management and security options for operating the ATLAS software.

The different peripherals are linked to the VAX6410 via a local-area-network(LAN) configuration within the same building. Branch libraries are linked with the Main Library via multiplexers and modems sited at both Main Library and branch libraries respectively.

The communication media used in the LAN and external links are as follows:

- o Ethernet baseband coaxial cable. (Complies with IEEE 802.3)
- o 802.3 Transceiver (AUI) drop cables (Connects Ethernet devices to standard baseband Ethernet

- o B2002 and B2004 data cables. (Complies with RS232 standard and connects video terminals to servers/modems/multiplexers and servers to modems/multiplexers)

- o Telephone and DEC432 cable (Connects telephone distribution board to modem and links with branch libraries).

## Hardware: Distribution

Table 3 below shows the distribution of workstations (video display units) throughout the UML system of libraries.

## Network Configuration

Diagram 1 shows the relative distance and network links of Branch Libraries to the Main Library in the first stage of its computerization programme.

As stipulated in the Tender document, communication links are also connected to the Computer Centre, the Administration and two other external institutions, being the National Library of Malaysia (NLM) and MIMOS (Malaysian Institute for Microelectronics Research). A workstation is available at the Administration building only. DEC has also proposed a MicroVax3100 system which will be placed in the Computer Centre which will be linked to the VAX6410 using a DECRouter100 device to allow links to MIMOS and NLM. A 3-channel modem device will link to NLM via normal telephone call-up lines on a stand-alone microcomputer which will be running the HP(Hewlett-Packard) Advanced Link Software. The link to MIMOS is via a private X.25 switch line in the University of Malaya (to be supplied by MIMOS under the JARING (Joint Academic and Research Integrated Networking Project)

## Hardware Distribution : Main Library

A schematic diagram of the network configuration and hardware distribution for the ground floor of the Main Library is given in Diagram 2 .

The hardware components in other branch libraries such as Engineering Library is given in Diagram 3. Multiplexers and modem devices are used to link with the branch libraries. These devices are located at both the Computer Room in Main Library and at the Branch Libraries.



**Table 3. Hardware Distribution**

Department	Units of VDU	Department	Units of VDU
<b>I. Main Library</b>		<b>B. Level I (cont'd)</b>	
<b>A. Ground Level</b>		<b>I. (Lower Mezzanine)</b>	
1. Computer Room (Houses the VAX6410)	1	1. Automation Division	4
2. Technical Processing Division		2. Reading Hall (OPAC)	6
i. Acquisitions	3	<b>II. (Upper Mezzanine)</b>	
ii. Cataloguing	8*	1. Reading Hall	6
3. National Language Collection	2*	<b>II. Periodical's Library</b>	8
4. Circulation Division		i. Government Publication Collection	2
i. Workroom	5	<b>III. Law Library</b>	7*
ii. Circulation counter (all with bar-code readers)	4*	<b>IV. Medical Library</b>	6*
iii. Red-Spot Collection	2	<b>V. Dentistry Library/Institute of Advanced Studies Library/ Engineering Library/ Language Institute Library #</b>	8*
5. Readers' Service Division	2	<b>VII. Chancellery</b>	1
6. Reading Hall (OPAC)	16		
<b>B. Level 1</b>			
1. Librarian's Office (Including Chief Librarian and Deputies)	5		

\* With bar-code reader attached for those workstations used for technical/circulation activities.

# Each Library has 2 workstations, therefore a total of 8 workstations

The unused ports available on both terminal servers and multiplexers are reserved for future use when funds are available to purchase other devices to be connected to them. Various departments, including the Faculty of Engineering and the Faculty of Economics and Administration have shown interest in using their own funds to purchase workstations for linking up with the Library.

Various changes to the physical layout of the respective departments are undertaken to ensure that there is a comfortable working environment for the staff. The installation of other types of devices and appropriate workstation furniture is discussed below.

#### Other Hardware/Products

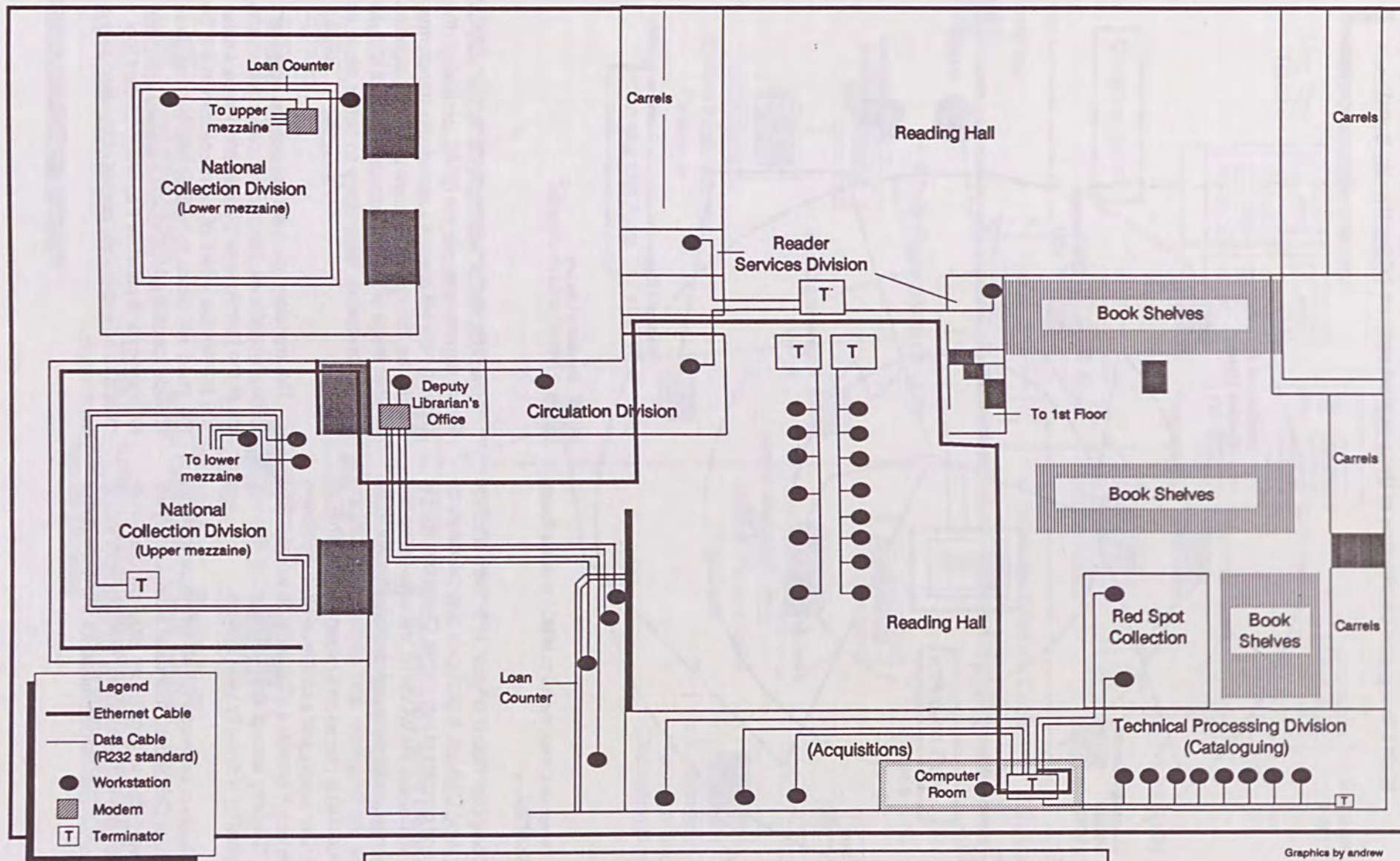
Different products and equipment are also acquired/installed to ensure that the computerization programme is implemented according to schedule and the desired benefits are reaped in the

shortest time frame. Minor civil works have been carried out to house the VAX6410 and to operate the various hardware devices and peripherals. Bar-code labels have also been bought to label the books and for patron membership cards.

To ensure that facilities are provided by all parties concerned during the installation period, periodic discussions are held between UML and the principal vendors. These meetings have produced positive results as users and staff were subjected to minimal disruptions and disturbances in their daily activities. The noise and dust levels were also kept to a minimum during civil work and the wiring installations were done to ensure that the aesthetic nature of the building is retained.

Sufficient power points (13 amps.) are being installed to operate the various computer devices and peripherals. Each department has submitted its requirements for such power points and their locations and the installation process is underway.



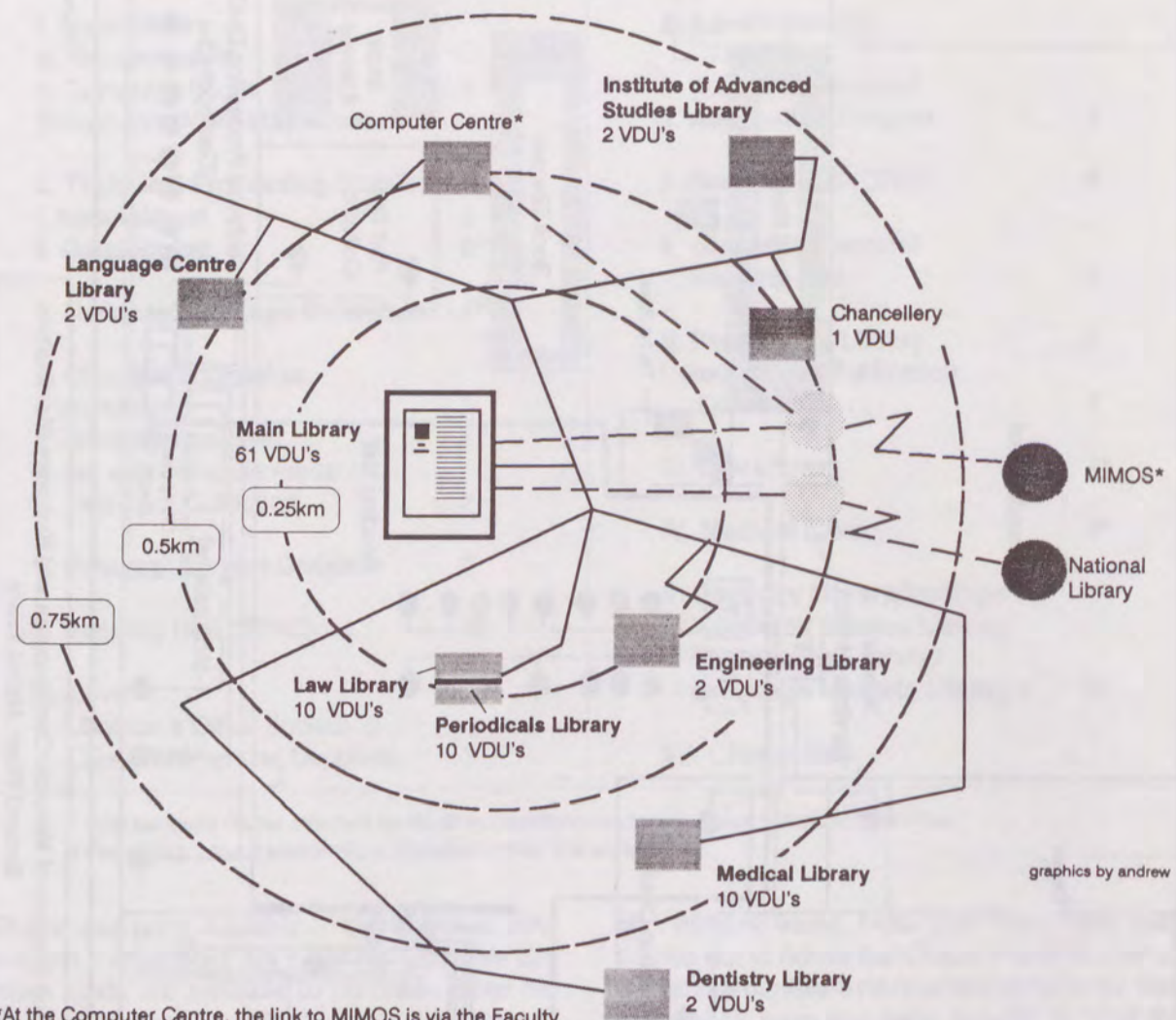


**Diagram 2. Schematic Diagram of Network Configuration and Hardware Distribution:  
Ground Floor, Main Library**

Graphics by andrew



**Diagram 1. Relative Distance and Network Links of Branch Libraries and other institutions to the Main Library; and Distribution of Units of Workstations (Video Display Units)**



\*At the Computer Centre, the link to MIMOS is via the Faculty of Engineering

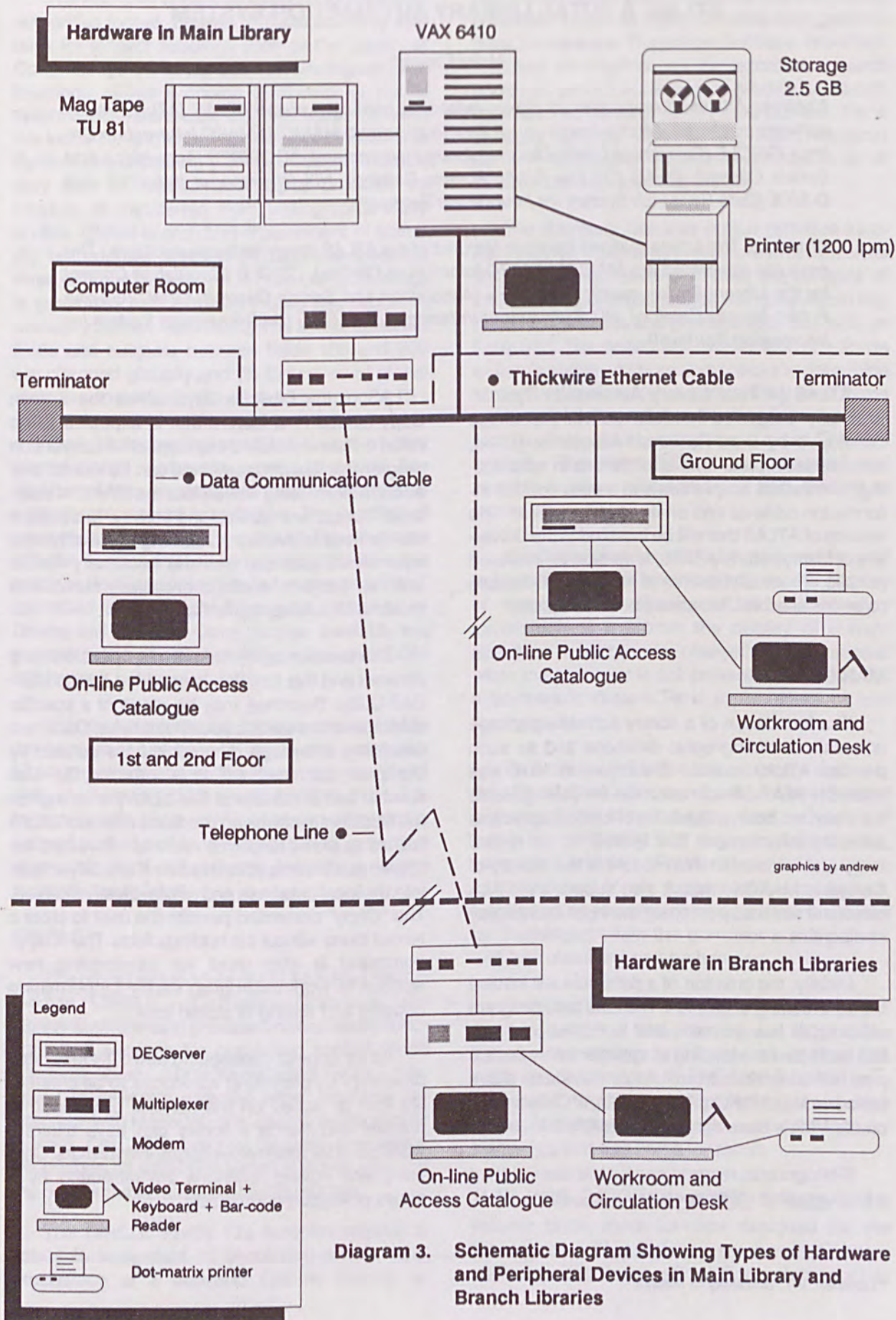
The Computer Room is located in the Technical Processing Division. It occupies approximately 60 sq.m. and consists of two rooms. One room (approx. 30 sq.m) houses the VAX6410, the tape-drives and its own air-conditioning unit and the adjacent room houses the lineprinter and several workstations. The VAX6410 is placed on a raised-floor and has its own power supply and a split-level air-conditioning system which operates alternately on a preset time basis. Security access to the Computer Room is controlled by a security card system.

Suitable counters for OPAC terminals together with a new Circulation Counter at Main Library will be constructed to provide an ergonomic environment to both staff and users. Suitable workstation furniture will also be purchased for the workrooms.

The location of workstations in the various library departments and the OPAC terminals in the reading halls will present a remarkable transformation of the library environment of UML. It signifies another stage of the continuous efforts of UML to adopt appropriate technology to better serve its clientele.

This transformation will not only be significant at the physical level. The transformation will also be felt at the human level by staff and readers alike. The portentous effect of computerization will be the need for users to reorientate his/her work attitude towards adopting and adapting to the new technology and consider it as one important tool, a means to an end in their pursuit of knowledge and information.





**Diagram 3. Schematic Diagram Showing Types of Hardware and Peripheral Devices in Main Library and Branch Libraries**



# ATLAS: A TOTAL LIBRARY AUTOMATION SYSTEM

Molly Chuah\*

**Abstrak:** Artikel ini menggariskan ciri-ciri/sifat-sifat penting perisian ATLAS (ATLAS library software package). Modul-modul yang diuraikan adalah MARION (MARC Information On-line), CIRCLE (Circulation Control for the Library Environment), ACQUIRES (Acquisition and Serials Control), OPAC (On-line Public Access Catalog), NIX (Newspaper Indexing) dan D-SIRE (Data Research System for Information Retrieval).

**Abstract:** The article outlines the main features of the ATLAS library software package. The modules described are MARION (MARC Information On-line), CIRCLE (Circulation Control for the Library Environment); ACQUIRES (Acquisition and Serials Control), OPAC (On-line Public Access Catalog), NIX (Newspaper Indexing) and D-SIRE (Data Research System for Information Retrieval).

ATLAS (A Total Library Automation System) is a fully integrated modular software package developed by Data Research Associates (DRA), encompassing real-time applications in cataloguing, circulation, acquisition and serials control, information retrieval and on-line public access. The version of ATLAS that will be installed in the University of Malaya Library (UML) is version 2.1 released in 1990. The main features of each ATLAS module to be installed in UML are as outlined below:

## MARION

The foundation of a library software package is usually a bibliographic database and as such the first ATLAS module developed in 1976 was MARION (MARC Information On-line) designed to build and maintain a database of bibliographic and authority information. The format for all record entry and retrieval in this module is the Library of Congress MARC format. It also supports the ALA character set, thus permitting the input and display of diacritics.

Initially, the creation of a database will involve the tape loading of records. The tape read program of MARION has proved useful in this respect as it has facilitated the loading of approximately 98,000 post 1982 records from UML's database maintained in MALMARC (Malaysian MARC) format to create UML's base database in MARION.

Bibliographic records can be transferred from a bibliographic utility such as OCLC, RLIN, WLN,

UTLAS or the Bibliofile terminal via the Screen Copy function - a feature that is expected to be relied on heavily in UML's retrospective conversion programme. Records selected can be viewed and edited before being written into the MARION database. For current cataloguing activity, this feature can be used to overlay on existing minimal record input by Acquisition, with the necessary details such as subject headings and class number to create a full bibliographic record.

The transfer of records is also possible in a network and this function is provided by the NET-CAT Utility. Searches may be made of a specific database or the default (local) database. Database searching is through mnemonic keys defined by the library, such as T = Title; A = Author, C = Call number and S = Subject. The Library is also given the flexibility in choosing the fields and subfields it wishes to index to permit retrieval. A record retrieved can then be edited before it is finally written into the local database and automatically indexed. The "Copy" command permits the user to store a record found without the holdings fields. The "Copy" command is also used for cataloguing new editions of work catalogued earlier by permitting copying and editing of stored data.

As for original cataloguing MARION facilitates data entry by permitting workforms to be created. No limit is placed on the number of workforms created and hence a library can have different workforms for different bibliographic formats. Data entry and editing functions are facilitated by a series of keypad commands.

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\* Librarian, IPT, University of Malaya



The Authority control function supports MARC authorities format; permits multiple authority systems for subject headings such as the Library of Congress's, the Medical Subject Headings or local headings; allows a choice of whether or not to create cross-references; displays scope notes in the index list and cross-references in the On-line Public Access Catalog (OPAC). Authority records may also be loaded from tapes provided by vendors or transferred from bibliographic utility on-line. Global search and replacement of authority records are effected through the following three options: (1) A report of conflicts of headings is generated and the library uses this report to manually correct records. (2) The text of specified fields and subjects between fields 100 and 999 are changed globally and (3) Execution of global changes on-line or by batch programming.

Each bibliographic record is linked to an item record which represents a copy of a title. The number of item records that may be linked to a bibliographic record is unlimited. The creation of such an item record utilises the linking programs with the item ID entered by scanning the barcode number. Book and spine labels can also be printed, formatted either for the Library of Congress or Dewey call number. Other outputs available are printed catalog cards, bibliographies and COM catalogues.

This technical service module does provide the necessary functions to create and maintain a bibliographic database. However, data entry and authority control will be greatly facilitated through improvements such as the window facility and a cut and paste function which will permit extraction of records from the authority index to a record currently being input.

## **CIRCLE**

The other base module of ATLAS is the CIRCLE module. CIRCLE - (Circulation Control for the Library Environment) provides the necessary functions and services for circulation control in an academic library. A notable feature of CIRCLE is its ability to integrate with the other modules, for example, with MARION for access to bibliographic records. CIRCLE in turn provides real-time status information on each item which is drawn upon by the on-line public access catalog module.

The CIRCLE Policy File function enables a library to implement its circulation policies and procedures at a network, system, branch or

department level via an interactive matrix involving parameters such as material codes, loan periods, fines, and renewal. The patron database, into which standard information can be recorded for each borrower, can be accessed by predefined search keys such as name or library card number. For a cooperating system, the type which UML has opted for, only one patron database, accessible to all branch libraries, needs be set up.

The Borrower Services option provides functions such as the charge procedure which involves scanning the borrower's ID card, the barcode of the item to be charged and pressing the return key to end the process and produce due date notices if required. The system also makes item checks on an item's status and borrower checks to determine a borrower's active status, outstanding fines, items on hold and delinquencies. Discharge and renewal require simply the scanning in of a returned item's barcode. The item status is also checked and overdue fines are calculated and paid, waived or recorded.

The Patron Services function performs several important services on-line such as the display of demographic, circulation and delinquency information of a patron; the display of current status of a borrower's charged items; renewal when the borrower is not present; cancellation of a borrower's request, and replacement of lost library cards.

To facilitate collection management and use, the Circulation Services function has several options tailored to permit movement and status of items in the library. For example, loan period, permanent location of material can be changed; intra and inter-library loans can be transacted; books can be routed among agencies; items can be discharged when the borrower is not present and bad check-ins can be handled.

From the CIRCLE menu, access to the bibliographic database and item record is possible through the bibliographic services option. For each selected record, the full MARC format may be viewed together with its holdings and item status. A staff can then place or cancel requests for borrowers and flag items for recall.

A submodule of the CIRCLE module is the reserve book room function designed for the management of a library's reserve book room collection. The Reserve Book Room database has



additional information such as the lecturer's ID, name, address, purge date, loan period, location and fine type. The search option provides access through search keys which include item ID, lecturer's ID, course name and title of book. Charge and discharge functions are effected through the reserve book room charge option which is similar to the CIRCLE functions. However, the submodule's policy file permits the setting up of six different fine structures which may be hourly or daily with fixed or sliding rates. This submodule interacts with other modules of the ATLAS system. Information that an item is added to this collection will be displayed in all other programmes including OPAC. Similarly a purge programme can be activated to check purge date, and delete records which will no longer be displayed.

There is also the AV Materials Booking System which relies on CIRCLE databases and functions such as the patron database, bibliographic services, Policy File, Charge/Discharge function and Circulation Services function to handle collection management and circulation of audio-visual materials. A very necessary supportive module especially in a system with heavy transaction load is the Off-line Backup Circulation (OBC) System which is activated when the system is down. The OBC records charges, discharges and renewals onto a storage device. These transaction data are later transferred to the host computer, updating both patron and item files.

The CIRCLE module has a range of functions and services to cater for circulation control of a wide variety of materials. Its interaction with the other modules means that every function can be performed with up-to-date information.

## **ACQUIRES**

The Acquisition and Serials Control module (ACQUIRES) provides various functions for automating procedures and tasks related to the acquisition of all types of materials. Information required by different functions of ACQUIRES is stored in a common policy file. This file contains data such as library address records, code translations, notice texts, general defaults for ordering materials, currency codes with conversion rates, the notice texts and notice intervals for checking in subscription through the Serials Program.

Pre-order searching of requested title is first done on the library's common bibliographic

database. New records may be transferred from Bibliofile in a terminal-to-terminal process. Records may also be added using the original cataloguing function, Record Editor. Brief records are created on either formatted worksheets (i.e. with labelled fields or unformatted worksheets, i.e. tags and indicators entered by user. These brief records may then subsequently be updated by cataloguing using bibliographic transfer process.

Another important file is the supplier file which contains the vendor address, claim, cancellation and payment requirements of each vendor. This file is involved when creating purchase orders and sending out claims and cancellation.

Audit trail for each fund is dynamic. For each fund there is a record in the fund accounting file. Each fund is given an identification code which may be set up to allow nesting up to ten levels, thus permitting reports on encumbrances and expenditure up to a specific subject area. An on-line report of each fund is available, with real time updates.

There is an optional material selection feature which enters requests for titles, prepares them from request lists and maintains gifts and exchange lists. This selection list may subsequently be accessed by the library for ordering purposes.

The ACQUIRES report generator produces reports and notices from master records for the vendor, account file and orders. The text of each notice, such as the claim or cancellation notices is tailored by the library. Various reports are also available for selection lists, fund accounting, ordering and receipt functions. The type of reports, the information to be included and the display format are left to a library to customise, depending on its needs.

## **SERIALS CONTROL**

This function performs ordering, check-in, claims and cancellation. Check-in of issues may be via ISSN, or any access points in the bibliographic record. From the frequency information and the numbering scheme entered in a subscription record, the system is able to predict which issue is expected next.

When an issue is checked in, the holdings information is immediately updated. Holding information may be displayed in a summary or detailed form in this module and in OPAC. Serial numbering may conform with NISO or local display formats.



Claims, cancellation and renewal notices are generated at intervals established by individual libraries. Management reports are produced on subscription held, titles to be renewed, issues to be claimed and claims, renewal and cancellation notices, listed by vendor.

## OPAC

ATLAS's On-line Public Access Catalog can be accessed by users to (i) search the bibliographic database; (ii) tap full-text databases using keyword and Boolean strategy; (iii) read the library electronic bulletin board; and (iv) access the Information and Referral files.

Four different types of search strategies are available. For all four modes searches can be made on author, title, subject and other indexed fields. Each search mode also permit qualification by media and date. The browse strategy allows users to search the catalogue in response to system prompts. The direct look-up method allows a user to fill in the necessary information against a displayed field name. In the command language search the user types in both the command and the field data. The most sophisticated mode is the keyword and Boolean mode which allows a user to structure his search using operators such as AND, OR, NOT, ADJACENCY, NEAR, and nested parenthesis. Search can be on any specific indexed field in the MARC record including the Notes and Contents fields. To assist users, each of these access modes is accompanied by help screens and on-line tutorials.

Display format is consistent with labeling of information in words instead of acronyms. Separate screens can be defined for branch libraries within a consortium. There is an option to display local or network holdings, and "on order" and "in process status" of items.

## NIX

The Newspaper Indexing (NIX) module is used for the indexing of newspaper and periodical articles. It is designed to facilitate the compilation of printed indexes rather than for public online access.

First an index arranged by alphanumeric or numeric code reflecting all possible subject, personal name or obituary heading has to be established. A list of newspapers and periodicals to be indexed has also to be drawn up and a

name code assigned to each title. Annotations of up to 111 character are then entered attached with the appropriate newspaper title code, date of publication, newspaper section and heading code or codes.

From this module a variety of listings and output may be generated. These include current headings and cross-reference records; subject headings with corresponding annotations and cross-references. Headings, cross-references and annotation may also be produced in tape form to be used to produce a computer-typset index.

## D-SIRE

To provide a more sophisticated information retrieval capability, UML has also subscribed to a third-party package D-SIRE (Data Research System for Information Retrieval). This package allows one to access a variety of information such as full-text databases and community services information. Search may be in natural language mode or a structured mode using Boolean operators and nested parameters. Output retrieved may then be ranked. D-SIRE indexing counts the number of times a given keyword or search string appear and assigns a numerical value. This indicator helps one to evaluate the usefulness of references found and consequently indicate whether search strategy ought to be maintained or changed.

## Conclusion

With all reasonable expectations that the installation of the ATLAS system in UML will proceed according to the schedule as outlined by Mr. Teh Kang Hai in his article, the main modules of ATLAS should be running by the end of 1991. Hopefully the setting up of ATLAS will enable the Library to play a more effective role in meeting the informational needs of the academic and student community of the University of Malaya.

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## Computerisation of the University of Malaya Library (UML): Issues of Implementation

Teh Kang Hai\*

**Abstrak:** Perpustakaan mula melaksanakan projek pengkomputerannya pada Januari 1991. Perlaksanaan sepenuhnya akan melalui 2 fasa. Fasa I meliputi pemasangan dan pengendalian sistem komputer VAX dan perisian perpustakaan ATLAS. Sebanyak 100 buah terminal akan dipasangkan dalam sistem Perpustakaan untuk dihubungkan kepada sistem komputer melalui rangkaian seluruh kampus. Fasa II akan melibatkan beberapa peningkatan kepada ingatan, storan dan peralatan sampingan lain supaya sistem komputer dapat menampung keperluan 300 terminal. Ini termasuk terminal tambahan di perpustakaan cawangan, dan juga di fakulti dan jabatan lain di kampus yang ingin berhubung dengan rangkaian perpustakaan ini. Fasa I yang sedang dijalankan dilaksanakan secara 'turnkey', dan dijangka siap pada hujung tahun 1991. Tiga bulan pertama dijadualkan untuk kerja persediaan tapak dan pembekalan perkakasan komputer, dan 3 bulan berikutnya untuk pemasangan perisian aplikasi, latihan, ujian dan penerimaan sistem. Sistem akan seterusnya ditinjau dari segi prestasi pengendaliannya dalam keadaan sebenar bagi tempoh 6 bulan hingga hujung tahun 1991. Setakat ini, semua kerja dijalankan mengikut jadual, kecuali sedikit kelewatan tentang kerja 'outdoor cabling' diakibatkan kekurangan kabel tertentu. Perlaksanaan perisian ATLAS akan mengutamakan kepada modul-modul yang akan membawa manfaat yang ketara kepada pengguna secara amnya. Untuk melaksanakan projek yang besar seperti ini, masalah pasti timbul, tetapi semua sudah diselesaikan secepat mungkin.

**Abstract:** The Library started implementing its computerized integrated library project in January 1991. The complete computerization of the Library is envisaged to take place in 2 phases. Phase I encompasses the installation and operation of the VAX computer and the ATLAS integrated library software. A total of 100 terminals distributed within the Library system will be connected to the main computer system in a campus-wide network. Phase II will involve some upgrading to the hardware configuration in terms of memory, disk storage, and other ancillary equipment to accommodate up to 300 concurrent users to the system. This includes the additional terminals for the branch libraries as well as the links from users in the various faculties, departments to the library network. Phase I which is currently in progress is being implemented on a turnkey basis, and is scheduled for completion by the end of 1991. The first three months have been scheduled for site preparation and delivery of the computer hardware, followed by three months of application software installation, training, testing and acceptance of the system. The system will be monitored in actual operation for the next 6 months till the end of 1991. Work has been going on according to schedule, save for an anticipated delay in the outdoor cabling work due to a shortage of the required cable. Implementation of the ATLAS software will focus on getting some modules to become operational as early as possible, to allow library users in general to enjoy tangible benefits from the computerization project. Problems in implementing a big project like this is inevitable, but to date all have been speedily resolved with the vendor.

So the contract is finally signed, and we can now see the light at the end of the tunnel. It has been a long, long wait for this moment. It has also been an exercise of patience, tempered with periods of anxieties and frustrations. But in reaching this moment, is it the end or the beginning of another ordeal?

Hardly had the ink on the contract dried, anxious librarians were asking as to when the computers would be moving in. There was a lot of preparatory work to be done before the first pieces of equipment rolled in. The whole project is to be implemented on a turn-key basis. Everything that is going to take place had all been time-tabled

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according to an agreed schedule. In the project the ATLAS (A Total Library Automation System) integrated library package developed by Data Research Associates, Inc. (DRA) of the United States, will be implemented to run on Digital Equipment Corporation (DEC) VAX 6410 minicomputer. All the libraries in the UML System will be linked up in a campus-wide network.

### The Exhibition

The signing of the agreement for the purchase of an integrated library system, is a milestone event in the history of UML. All the efforts made in the last 15 years or so is soon to bear fruit. The event too was eagerly awaited by the successful vendor to whom the tender was awarded. Their successful bid for the tender was not merely another sale, but the importance lies in the fact that this was going to be the first installation of the ATLAS software in the country. Moreover, the University of Malaya Library is the oldest and largest academic library in the country and, the system that was going to be implemented with 100 terminals is by far the single largest computerized library system in the country.

The Library was equally glad the tender award had been finalised. Besides the news carried in the newspaper, the Library intended to keep the users informed of the changes about to take place with computerization, and more importantly what benefits it will bring them. Towards this end, the Library set up a committee to plan for an exhibition on the computerization project. The committee went about its task in earnest and had an exhibition ready by the end of February 1991. The exhibition traces the history of computerization in UML, gives information on the hardware, software and networking components of the library system. The exhibits also include the implementation schedules and books on library computerization. The exhibition will run for the duration of the implementation of the library system until it is fully operational by the end of 1991.

### Phases of Implementation

Computerization of UML system can be divided into two main phases as follows:

Phase I - Establishment of a complete integrated library system comprising the installation of the hardware and application software with 100 terminals hooked up.

Phase II - additional terminals to be linked (up to 300 in all); memory upgrade and additional disk storage.

#### Phase I

The first phase of the implementation is basically to establish an operational integrated library system to handle most of the important day-to-day work processes within the UML system. All the hardware and the software to facilitate this would have been installed within this phase. A total of 95 terminals as well as 5 microcomputers which can be used in terminal emulation mode, would be hooked up to the computer system. Initially, all these terminals and microcomputers will be distributed within the library system only, comprising the Main Library and all its branch libraries. External links to the National Library of Malaysia and the Malaysian Institute for Microelectronics System (MIMOS), which are two mandatory requirements, will also be established within this phase.

This first phase of our computerization which is currently in progress can itself be divided into the following sub-phases:

- 1) site preparation
- 2) delivery of equipment and installation of the system software
- 3) installation of the application softwares
- 4) downloading the bibliographic databases and training
- 5) testing and commissioning of the system
- 6) system monitoring

Site preparation and delivery of equipment were scheduled to be completed over a three-month period. Installation of the application software and downloading of the bibliographic database for testing were scheduled for the next three months, with full acceptance and commissioning of the complete system at the end of that period should all tests be successfully carried out in accordance to the agreed specifications. A six-month period of monitoring follows from the Acceptance Date in which the system will be observed as to its performance in an actual 'live' environment. It was coincidental that the agreement to the tender award was signed at the end of December 1990. It allows for ease of monitoring the implementation schedules which should be as follows:



- By March 1991 - site preparation and delivery of hardware equipment would have been completed
- By June 1991 - the application software would have been installed, the bibliographic records downloaded and testing of the library integrated system would have been completed and commissioned
- By December 1991 - Barring any hitches, the system would have been monitored with regards to its performance in actual operation, and the vendor would be deemed to have successfully executed the terms of the agreement.

Refer also to the chart as shown in Fig. 1. Come the end of 1991, and barring any unforeseen delays, a fully functional integrated library system would be in operation.

### Site Preparation

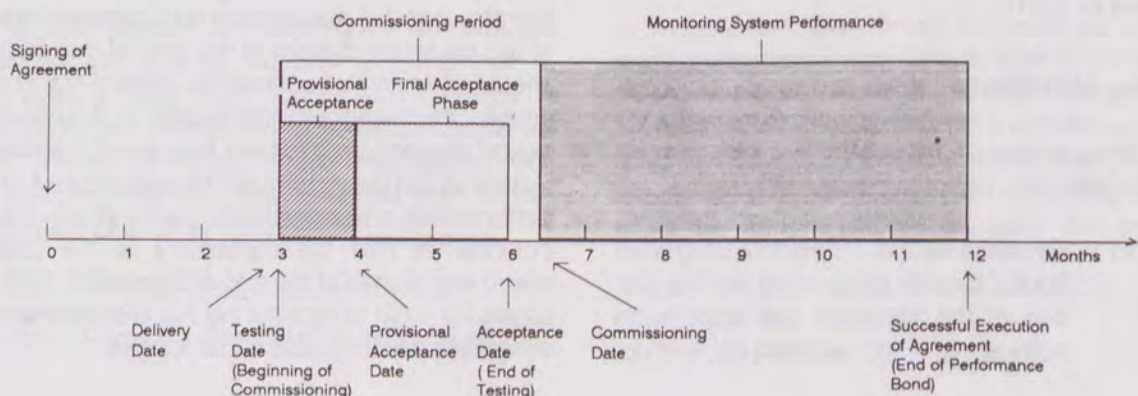
This phase of implementation pertains to the preparation of the computer room, laying of the Ethernet cable within the Main Library, indoor cabling works within the Library system to hook-up all the terminals servers, modems, multiplexers and the terminals. This phase also encompasses the outdoor cabling work which required the laying of 0.9mm data communication cable around the campus to facilitate communication between the computer system in the Main Library to all the other branch libraries.

Preparation of the computer room and laying of the Ethernet backbone as well as other indoor cabling works were undertaken by Digital Equipment (Malaysia), the supplier of the Digital hardware system. This gave added confidence to the Library, because of Digital Equipment's reputation, not only in the performance of their VAX computer system but also their strengths in computer networking. Work began in January and was completed on schedule by the end of February.

While the work was in progress, there was no drastic interruption to the normal library activities. Save for the first few days when part of the walls in the designated computer room had to be broken down, the noise and dust resulting from the activities of the workers were at an acceptable level. In this aspect, a pre-site preparation meeting with the vendor and their contractor had proven to be very useful. At the meeting the contractor was asked to cooperate by trying to minimise the level of noise and dust pollution while carrying out their work. The Library was particularly concerned also because the students were preparing for their final examination and the Library was fully occupied during this period.

At the same meeting the vendor and their contractors also had the opportunity to meet with personnels of various departments of the University to which they would have liaison. The University Chief Security Officer briefed them on the protocols for the workers to follow while in the university premises. The University's civil and electrical engineers were present to advise on standard work protocols to ensure, for example proper place for keeping building materials, disposal of construction wastes etc. The electrical engineer advised on standard procedures required for electrical wiring, laying of cable trunking and

Fig. 1. University of Malaya Library Computerization Implementation Critical Path





placement of switch boxes. At the same time the vendor was able to communicate to the electrical engineer the power supply requirements of the computer system and the need to pull a 60 Amp submain supply line for the computer system.

Although this is a turn-key project, the University's Estate Office lent their staff to supervise the initial stage in the site preparation of the computer room. This had been done to ensure that the contractor's workers carry out their work in accordance with agreed procedures with regards to the disposal of waste, taking care to salvage usable items like doors, wood panels and glass panes to be returned to the Estate Office.

Regular meetings were held with the vendors to allow each side to voice any problems that might have arisen as work progressed. There has been no serious problems and whatever issues brought out were quickly resolved.

#### *Delivery of Equipment*

The VAX computer and all its ancillary equipment were delivered well ahead of schedule. There was no doubt that the supplier, Digital Equipment (M) Sdn. Bhd., was all ready to move as soon as the contract was signed. In fact the machine was ready to be flown in from the United States at very short notice, but owing to the unforeseen delay in the negotiation over the contract, the equipment had in fact been kept in store until the official order was made.

The computer was switched on for the first time on the first week of March and has been in operation since. The VMS operating system was installed and the disk drives, tape drives and printers had been configured. The Ethernet cable was tapped at appropriate points for connection to the terminal servers. This made it possible for some terminals to be hooked up. Currently some terminals in the Cataloguing Unit, the Acquisition Unit and Automation Division in the Main Library have been hooked up to the computer system.

#### *Application Software*

Soon after the computer system went 'live', the application software was installed, by the second week of March, and downloading of UML bibliographic records from the MALMARC (Malaysian MARC) database was successfully completed two weeks later. A total of 98,120

records were downloaded. A smaller file containing records for serials from the PERPUNET database was also merged into the ATLAS database. Tapes containing the name authority records in the MALMARC database have been received and will be downloaded.

Since a few terminals have been hooked up to the main computer system, the cataloguing and acquisition librarians have been able to get 'hands-on' experience using the ATLAS software package and creating records in a demonstration database. Staff from other divisions within the Main Library too would be able to do likewise as soon as more terminal servers and terminals are hooked up. However, hands-on training at the vendor's premises have also been arranged so that librarians can familiarize themselves with the use of the ATLAS software, and have the benefit of assistance from the vendor's supporting staff. Formal training on the use of the ATLAS software has also been scheduled, and will be conducted on-site.

While we envisage that all modules would be operational by the end of the year, there is some degree of prioritisation as to which module becomes operational first. The Cataloguing module should definitely take precedence, to allow for the creation of the bibliographic databases, as well as to facilitate retrospective conversion of the card catalogue. At this point in time, the Cataloguing module has been the most studied and tried out and thus the best understood amongst the modules. Even well before the installation of the ATLAS software, the Chief Cataloguer has been untiring in her efforts to make a comparison between the new method of inputting in the LCMARC format as opposed to the MALMARC format with which all our cataloguers are more familiar. Those areas where input conventions differ have been noted, and new input forms have been designed to incorporate those differences. Briefings had been given to all cataloguers from the whole library system on the major differences and the new conventions to be observed for input. With this it is hoped that the transition from MALMARC to LCMARC or ATLAS MARC would be a less painful experience. However problems remain that still need to be resolved.

The Circulation module is considered with some priority for implementation. A major constraint to the full implementation of the circulation module, is that only about one-sixth of the Library's bibliographic records is in machine-readable format,



and those already in that format need to be inventoried. However, this will not deter us from bringing the circulation module into operation as soon as is feasible, while at the same time efforts are being made to convert the card catalogues as soon as possible. The effort to implement the module is facilitated as the Main Library collections have been completely bar-coded since 1989. To date, the testing of the circulation module has been hampered by the problems encountered in setting up the complete circulation policy file. This task is almost completed, and it is hoped that the module can be tested before the end of May 1991.

The Library plans to make the OPAC (Online public access catalogue) module accessible to the users as soon as possible. This should not be too much of a problem as the information in OPAC is very much dependent on the information captured at the stages of cataloguing and acquisition. But it has been given a somewhat high priority for implementation, because together with the circulation module, implementation of these two modules are the ones most likely to have direct benefits to the users. The circulation module allows for faster check-out, check-in, ease of reservation and query on loan-related information. The OPAC also allows ease of querying the catalogue and gives the user more information about the status of a book.

The Library will be sensitive to the needs of the users in its implementation schedule, and wishes the users to enjoy some tangible benefits from computerisation. Computerisation must not be seen as benefiting the librarians only, but it should have immediate positive impact to the library users as well, in terms of better and more efficient service.

### *Testing and Monitoring the Library System*

Testing of the Library system concerns testing both the VAX computer hardware and the ATLAS software components running in unison, as well as testing the integrity of the library network as a whole and also the mandatory links to the National Library of Malaysia and MIMOS (if the latter two links are possible by then). Emphasis will be on the response time of the system when performing circulation transactions, both when the system is configured for 100 and then 300 concurrent users. A standard benchmark test or some other suitable test protocols to be mutually worked out with the vendor will be used.

The 6-month period of system monitoring following the successful installation and testing of the complete system will give the Library an opportunity to monitor both the hardware and software performance. It is hoped that by the end of the period of monitoring, we would have gone through varying experiences and situations working on an actual 'live' system, to be able to detect any hardware defects, software bugs and any other serious deficiencies in the system as a whole.

### **Phase II**

The second phase envisages some upgrading in the real memory, disk storage and the installation of additional terminals or microcomputers to be linked up to the Library system. In the tender, the vendors had been told to propose a hardware configuration which should be sufficient to cater to 300 concurrent users in all, with minimal or no upgrading to the start-up configuration of the computer system. This means that there should be no adverse degradation in response time whether the system is configured for 100 users initially or 300 users eventually. In the negotiation with the vendor UML had been quite adamant about this, but the vendor is confident that the hardware will deliver given the sizeable memory of 128-MB which has been configured for the Library computer system.

Although the Library does not envisage any substantial upgrading to the system for the next few years or so, it will be realistic to prepare for some upgrading in view of the expanded network to accommodate 300 concurrent users or more eventually. It is hard to imagine how the network will grow and what the demands are going to be like for direct links to the library system from those departments outside of the library system. We expect the growth to be fast, because the Library network is the first really 'big network' that allows staff in many departments for the first time to establish a link to a computer outside of their own department. If not for anything else, it may just be for the mere joy of being able to query the Library catalogues and databases from the comfort of their own rooms or offices, to allow the computer to do the walking, so to speak. Besides the link to the faculties and departments, there will be additional terminals in each of the branch libraries to cater to their needs in both the workroom processes as well as the service points. There is therefore the need for extra modems and multiplexers or even additional



terminal servers. The Library has already addressed all these issues and had made an application for money under the 6th Malaysia Plan to fund such purchases.

The various faculties and departments have already been informed of the feasibility of a link to the library system in the near future, and have been advised to request for funds to acquire the necessary equipment like a terminal or microcomputer, a modem as well as a terminal emulation software to facilitate the link. Already queries have come in from some departments regarding these requirements. The Library, working with the vendor, will advise them on the appropriate equipment in due course. Most departments already possess microcomputers which can be used in the VAX VT320 terminal emulation mode with the use of the Kermit communication software, together with a modem and the telephone line. The only constraint to this link now is probably the shortage of direct telephone lines in the Library to allow many users to dial into the library system simultaneously. The Library has applied for an additional telephone line to test this link feasibility, and at the same time to use it for remote diagnosis of the VAX computer systems by the vendor, as well as to allow us to do electronic mail, be it to another computer installation locally or to an overseas installation like the ATLAS principal in America. More lines will be applied for when the system becomes fully operational.

### Vendor Support

An important issue in the implementation of a turnkey library package such as this, is the level of vendor support and the competency of their support personnel in the software. The ATLAS library package is the first to be installed in this country. However, six libraries in Singapore are using it, and support to those installations comes from the vendor's principal office in Singapore. The vendor's personnel in Malaysia supporting UML are relatively new to the package, but the three library specialists, including one senior consultant specially assigned to work on UML project have shown a keen interest to learn and ensure

smooth implementation. Backup support will come from their more experienced colleagues in Singapore who will be involved in the formal training as well. Overall, the Library is satisfied with the commitment of the vendor, and the close cooperation between their support staff and UML librarians augurs well for the Library project.

### Problems and Delays

In implementing any big computerisation project, problems and some resulting delay are inevitable. We have our fair share of problems, but none which can be said to be insurmountable. All have been speedily resolved with the vendors. An anticipated delay in our implementation schedule is the problem with the external cabling works. The vendor informed UML in March that there has been some problems sourcing the 0.9mm cables required for the outdoor cabling to link the branch libraries and the Main Library. Supply is reportedly said to be available only in July of this year, which would result in some delay to the schedule for the testing.

### Conclusion

By and large the implementation of the UML computerisation project has progressed rather smoothly. Site preparation, cabling works, delivery of equipment and installation of both system and application softwares have gone on as scheduled. The main problem, as mentioned, lies in the current shortage of the 0.9mm data communication cable for the outdoor cabling. Save for one or two months of delay to the original schedule, ILMU (Integrated Library Universiti Malaya) which means *Knowledge* in Malay, and which is the name given to the Library system, is expected to be fully operational by the end of 1991. This will make it the largest fully integrated library system in the whole country. It is also exciting to know that, for the moment, the network infrastructure laid for the library system is also the largest computer network in the university campus.



# Perolehan Istimewa/Special Acquisitions

## Book Gifts from Goethe Institute

### 1. *Malam Biru di Berlin: Blauer Abend in Berlin*

The 'Introduction' to this publication states that *Malam Biru di Berlin (Blauer Abend in Berlin)* is the first translation of German poetry to be made available in Bahasa Indonesia. The original anthology was compiled by Berthold Damshäuser; it has been translated by K.H. Ramadhan. This anthology comprises 103 poems in the German language written by German, Swiss and German poets spanning eight centuries (from the 12th to the 20th century). Eighty-seven poets are represented, and poems by Martin Luther, Goethe, Schiller, Nietzsche, Herman Hesse and Bertolt Brecht, among many others have been included. The anthology is published in a limited edition by the German Embassy in Jakarta. It has been made available to UML through the good offices of Dr. Matthias Rick, Director of the Goethe Institute in Kuala Lumpur. The Library understands that copies of this publication are no longer available for distribution. As a means of helping the Goethe Institute to extend this work to other libraries which are interested in the publication and as a conservation measure, University of Malaya Library will be willing to make available copies in microfiche, from March 1991, when the book will be fished.

ii. Matthias Rick, *On the Path to German Unity: Chronology of Events and First All German Election: Procedures, Programmes, Profiles*, Kuala Lumpur, Goethe Institute, 1991, Special Edition No.1

The preface to this publication states that this is the Kuala Lumpur Goethe Institute's first special edition. Other special editions are likely to be brought out in the future. The first section of this publication lists the chronology of events towards German reunification between July 1989 to December 1990. The second section provides some answers to the German electoral system which led to the first all German election of the Bundestag since World War II. Campaign statements of political parties for the election of 2nd December 1990 are also included. Copies of this compilation have also been donated by Dr. Rick to the Library, University of Malaya to support the gift and exchange programme of the Library. Copies may be obtained from the Library or from Goethe Institute addressed to:

Dr. Matthias Rick, Director, Goethe Institute,  
No.1, Jalan Langgak Golf, 55000 Kuala Lumpur

## Donation of Books on African History

On the initiative of Ms. Dawn Morais, the University of Malaya Library has been fortunate in being the recipient of a donation of 221 books of immense value on African history. This collection has helped enrich further an initial donation of books to the Library on the subject by the widow of the late Associate Professor Dr. K. K. Nair who initiated the course on African history in the University.

The collection is a result of his son, Mr. Ramachandran Menon's academic pursuit. A student of African history under Dr. K.K. Nair, he pursued a Master's course in African history in the History Department, University of California at Los Angeles where he was awarded the Regents Fellowship for his performance in this field. The Library may now be said to own a substantial collection on African history to afford the researcher a sound reference source on this continent.

This collection is dedicated to the memory of the late Mr. V. R. Menon, an engineer with Perak Hydroelectric. A voracious reader, Mr. V. R. Menon loved books. It was, ironically, mathematics books that he found most fun reading. A scientifically and mathematically inclined person, solving mathematical problems was his hobby.

## Katalog Koleksi Melayu Universiti Kebangsaan Malaysia

Perpustakaan telah menerima sebagai hadiah daripada IBKKM, Universiti Kebangsaan Malaysia sebuah buku berjudul *Katalog Koleksi Melayu Universiti Kebangsaan Malaysia*. *Katalog Koleksi Melayu Universiti Kebangsaan Malaysia* ini menyenaraikan 20,000 bahan yang ditulis dalam bahasa Melayu di samping bahasa-bahasa lain serta bahan-bahan yang mempersoalkan tentang masyarakat Melayu yang mana hanya disusun mengikut pembahagian perkara. Bidang perkara yang disentuh adalah meluas, antaranya merangkumi aspek bahan-bahan am, agama Islam dan lain-lain agama, sejarah dan politik, budaya, kesenian, antropologi dan sosiologi, pendidikan, ekonomi, undang-undang, bahasa serta juga kesenian. Penerbitan ini amat berguna sekali kepada mereka yang ingin mencari maklumat tentang bangsa Melayu, budayanya dan hal-hal seumpamanya.



**Penerbitan-Penerbitan Malaysia yang masih dalam Pasaran pada Tahun 1990**

Penerbitan yang telah diselenggarakan oleh saudara Lim Chee Hong ini adalah terbitan Majlis Kemajuan Buku Kebangsaan Malaysia. Senarai penerbitan ini merupakan saluran utama bagi para pembaca amnya dan para pustakawan khususnya untuk mendapat maklumat berkenaan dengan buku-buku yang telah diterbitkan di Malaysia. Bagi memudahkan pengguna mengakses maklumat dari senarai ini, pembahagian senarai telah dibuat kepada dua bahagian. Bahagian pertama menyenaraikan entri lengkap buku/penerbitan yang masih boleh diperolehi. Di mana entrinya telah disusun mengikut Internal Sequencing Number atau ringkasnya ISN. Bahagian kedua pula mengandungi indeks pengarang dan tajuk yang terdapat di bahagian pertama. Untuk memudahkan para pengguna, bahagian ini juga menyediakan nombor rujukan, juga berdasarkan ISN.

**Profil Penyelidikan dan Penerbitan Fakulti Perubatan Universiti Kebangsaan Malaysia 1980-1987**

Buku suntingan Khalid Abdul Kadir, Ton So Har dan Zariyah Abdul Rahman ini adalah merupakan himpunan senarai penerbitan dan penyelidikan tenaga pengajar Fakulti Perubatan, di samping ia juga menggarapkan bidang-bidang yang menjadi keutamaan penyelidikan di Fakulti tersebut. Buku ini mengariskan secara terperinci bidang-bidang yang menjadi tumpuan penyelidikan di Fakulti itu, antaranya seperti bidang Biologi Molekul, Endokrinologi, penyakit Metabolisme dan Sains Reproduksi, Haematologi dan Onkologi, penyakit ginjal, pendidikan perubatan, perubatan sosial dan masyarakat, penilaian ubat dadah, farmakologi klinikal dan keracunan, kesihatan kanak-kanak dan ibu, serta juga tentang penyakit berjangkit.

**Laporan Persidangan/Conference Report**

**Siri Diskusi Pengajian Mengenai Wanita  
( Disember 1990 - 19 Januari 1991)**

This one-day Seminar was held on 19th January 1991 as part of a series of discussions being arranged by the National Archives of Malaysia relating to studies on women in Malaysia. This discussion is the second session of the first series relating to studies on women by institutions of higher learning.

Resource persons and paper presenters are invited from relevent department and organisations.

Discussion are attended by personnel and researchers with interest in the field of women studies and the development of women in Malaysia.

**Papers**

A set of papers for the two discussions are available in the Library, University of Malaya.

The programme of discussion is expected to be as follows:

Date/Scheduled Date of Discussion	Topic of Discussion
1. 1 December 1990 & 19 January 1991	Studies of women in institutions of higher learning
3. 25 Febuary 1991	Studies on women by government departments
4. April 1991	Studies on women by non-governmental organization (NGOs)
5. May 1991	Databases and library resources relating to studies on women in resource centres.

Khoo Siew Mun



# Kertas Kerja Persidangan Yang di Perolehi/ Conference Papers Received

## **Seminar Kebangsaan Budaya**

### **Kerja Cemerlang**

(28-29 November 1989 : Kuala Lumpur)

fHD57 SKBKC

Penganjur: Jabatan Perkhidmatan Awam; Kementerian Belia dan Sukan; Unit Pemodenan Tadbiran Malaysia dan Pusat Daya Pengeluaran Negara

1. A brief introduction of Matsushita Management on 'Human Resource Management', by Tadashi Akita.
2. Perkhidmatan berkualiti, oleh Abdullah bin Abdul Rahman.
3. Budaya kerja cemerlang, oleh Ahmad bin Berek.
4. Asas psikologi bagi mewujudkan perubahan sikap ke arah kecemerlangan dalam budaya kerja, oleh Hj. Wan Halim Othman.

## **National Outlook Conference**

(29-30 November 1989: Kuala Lumpur)

fHC445.5 NOC

Penganjur: Malaysian Institute of Economic Research, 9th Floor, Block C, Bangunan Bank Negara Malaysia, Jalan Kuching, 50768 Kuala Lumpur

1. Primary commodities: issues and prospects, by Mohammed Yusoff.
2. World economic outlook: can Japan compensate for a US economic slow down, by Michael Papaioannou.
3. Future of the plantation sector, by Aziz Abdul Rahman.
4. National economic outlook 1990-1991, by Kamal Salih and others.
5. Inflation: heading for trouble?, by Ho Ting Seng.
6. Investment outlook: will investment-led growth persist?, by Kamal Salih and Yeong Yu Ching.
7. Asian economic projections, 1990-2000: multi-polar world economy and Asian-Pacific interdependency in the 1990s, by Fu-Chen Lo, Yoichi Nakamura and Byung-Nak Song.
8. Malaysia's long range economic outlook 1991-2000: prospects for doubling the national per capital income, by Kamal Salih and others.

9. Human resources outlook in the 1990s, by Zainal Aznam Yusof.

10. Public finances in the 1990's, by Ismail Muhd. Salleh.

## **ASAIHL Seminar on University Education in the 1990s**

(4-7 December 1989: Bangi)

LA1058 ASAIHLSUE

Penganjur: Universiti Kebangsaan Malaysia (Pejabat Naib Canselor)

1. Indonesia: country report, by Juwono Sudarsono.
2. Philippine higher education system: status, issues and prospects (Philippine country report), by Benjamin G. Tayabas.
3. Widening access to Hong Kong's tertiary education in the 1990s, by R.I. Wacks.
4. University education in the 1990's, by Tham Seong Chee and A. Mani.
5. Malaysian Universities - facing the challenges of the nineties, by Abdul Halim Othman and others.
6. University education in 1990s: a new challenge for Thailand, by Apichai Puntseen.
7. Education quality and access to higher education, by M.I. Logan.
8. Access and equity in higher education: an Australian perspective, by T.J. Ledwidge.
9. Communicative competence in higher education, by James T.F. Poon and Chan Choon Hian.
10. Developing micro-enterprises: the role of higher education, by Chan Choon Hian and James T.F. Poon.
11. Institution and art: the problem of institution in University education, by William Ray Langenbach.
12. Quality of higher education via distance education - the case of the Centre for off-campus studies at Universiti Sains Malaysia, Penang, by Sharifah Alwiah Alsagoff and Karsono Ahmad Dasuki.
13. Approach to study of degree level students at the City Polytechnic of Hong Kong: the first year experience, by J. Balla, M. Stokes and K. Stafford.
14. Singapore's University education: into the 1990s, by Phua Kang Hoh.



15. Medical education, government and society, by Datin Dr. Sharifah Hapsah Shahabudin.
16. Higher education effectiveness in preparing graduates for professional practices, by Rohaty Mohd Majzub and T. Subahan Mohd. Meerah.
17. Financing University education in state and private institutions in the Philippines in the 1990s, by Lazara Julianda.
18. The role of higher education in a developing city: Hong Kong, by Fung Pui Wing.
19. Higher education and the labour market in Hong Kong, by Grace Chow.
20. University education and employment, by Maria S.W. Sumardjono.
21. Full graduate employment: reality or mirage?, by Pinyo Satorn.
22. Vocational orientated education - How well are the graduates prepared for the world of work: experience of the Hong Kong Polytechnic, by Luke S.K. Wong.
23. University education and graduate employment in Thailand in the 1990s, by Watana Isarankura.
24. Tadulako University graduates and employment, by Abdul Ghani Hali.
25. The relevance of the University curriculum - medicine as a model, by J.S.G. Biggs.
26. A proposal for a revised University curriculum in Malaysia: case study at Universiti Utara Malaysia, by Roshidi Hassan.
27. University industrial relations education and social transformation - the empowerment of labor, by Ma Virginia Sinay-Agular.
28. Towards achieving excellence in the University, by Syed Jalaluddin, Mohd Zain Karim and Ho Yin Wan.
29. Environmental quality and higher education in the 1990s: continued benign neglect or new leadership?, by James H. Stone.
30. Field study in university curriculum, by So Chak Lam.
31. The use of local resources for the teaching in the biological sciences, by Maimon Abdullah.
32. Evaluation procedures in University education in Malaysia: some issues, by Robiah Sidin.
33. Enhancing university - industry collaboration in the context of the Universiti Teknologi Malaysia, by Asaruddin Ashari, Awaluddin bin Shahrom and Shameen Bagum Khan bte Mohd. Rafik Khan.
34. Fairy tales in accounting education, by G.D. Donleavy.
35. Some thoughts on the university curriculum, by Fatimah bte Hamid Don.
36. Mutual relationship between curricula and changing society, by Suhardjo Danusastro.
37. Legal education in the modern world, by Raymond Wacks.
38. Approaches to learning of accountancy students in Hong Kong: some additional evidence, by Dennis S. Chan and others.

#### **National Computer Application in Petroleum Industry Symposium**

(5-6 December 1989: Kuala Lumpur)  
fHD9576 M4NCAPIS

Penganjur: Universiti Teknologi Malaysia, Karung  
Berkunci 791, 80990 Johor Bahru

1. Survey on artificial intelligence application in petroleum industry and its applicability to Malaysian oil companies, by Ismail Abdul Razak.
2. An application of statistical program in identifying lithofacies from wireline logs, by Jelani Ranggon and Ha Kwong Tak.
3. Troubleshooting and optimising refining processes using PC, by Abdul Rahman Hariri and Abdul Aziz Omar.
4. Process simulation of EPMI oil production system, by Lee Siew Hoon.
5. An improved borehold televiewer system: image acquisition, analysis and integration, by J.K. Faraguna, D.M. Chace and M.G. Schmidt.
6. Plant design, by Ray Howorth.
7. Design and development of process flowsheeting and synthesis system for the design of energy efficient processes using spreadsheet programs, by Mustafa Kamal Abdul Aziz and Noor Azian Morad.
8. Compositional simulation of the In-Situ combustion process, by Mohd. Nawi Derahman.
9. Utilization of CAD applications in design of offshore petroleum installations, by Petter Urdahl.



### **Seminar Kepintaran Buatan Masakini**

(5-6 Disember 1989: Skudai, Johor)

fQ334 SKBM

Penganjur: Institut Sains Komputer, Universiti Teknologi Malaysia, Karung Berkunci 791, 80990 Johor Bahru

1. Pengenalan kepada kepintaran buatan, oleh Naomie bte Salim.
2. Kepintaran buatan dan pendidikan: konsep dan isu, oleh Jamaludin bin Ibrahim dan lain-lain.
3. Aspek-aspek kecerdasan buatan dalam penterjemahan berkomputer, oleh Zaharin Yusoff.
4. Penjana ayat-ayat bahasa Malaysia dari interlingua di dalam penterjemahan berkomputer, oleh Roslan Ramli dan lain-lain.
5. Struktur berkonsep sebagai perwakilan hasil analisis ayat, oleh Safie Mat Yatim dan Ismail Mat Amin.
6. Isu-isu pemprosesan bagi sistem pemprosesan bahasa tabii dan penterjemahan, oleh Faizah Ahmad dan Safie Mat Yatim.
7. Kecerdasan buatan: kaitan-kaitan baru, oleh Abdul Razak bin Hamdan.
8. The technology and applications of expert systems, by Ho Yin Seong.
9. Konsep kecerdasan buatan dalam perundangan Islam: kajian kasus Faraid, oleh Khairuddin Omar.
10. Sistem pakar penyakit tanaman getah (SISPAG), oleh Zailani bin Mohamed Sidek dan lain-lain.
11. Penggunaan sistem pakar (expert system) dalam bidang perancangan bandar dan wilayah, oleh Ho Chin Siong.
12. Penggunaan kepintaran buatan di dalam kejuruteraan kimia: satu tinjauan, oleh Badhrulhisham bin Abdul Aziz dan Kamarul Asri bin Ibrahim.
13. Alat bantuan pembangunan sistem pakar: satu alternatif kepada pengaturcaraan sistem pakar, oleh Abdul Halim Mohd. Yusof, Amiruddin Haji Azahar dan Yunus Haji Tasim.
14. Peranan sistem pakar dalam rangkaian komunikasi data, oleh Abdul Hanan Abdullah dan Subariah Ibrahim.
15. Tinjauan dan perbandingan algoritma mengecam corak data menggunakan teknik berkelompok, oleh Shamsul Sahibuddin dan Abdul Halim Mohamad Yusof.
16. An application of AI in document retrieval system, by Tengku Mohd. Tengku Sembok.

### **Seminar Bahasa**

(7-8 Disember 1989 : Kuala Lumpur)

fPL5061 SB

Penganjur: Jabatan Bahasa, Dewan Bahasa dan Pustaka, Peti Surat 10803, 50926 Kuala Lumpur

1. Aspek, oleh Haji Khalid M. Hussain.
2. Pembinaan perbendaharaan kata bahasa Melayu Laissez - Faire atau perancangan, oleh Sheikh Othman Sheikh Salim.
3. Beberapa kendala lafaz baku: suatu pemerhatian sepintas lalu, oleh Zainal Abidin Abu Bakar.
4. Bahasa sukuan Sarawak sebagai satu unsur integrasi nasional: satu pandangan sepintas lalu, oleh Abd. Ghaffar Laili.
5. Perancangan bahasa DBP selepas 1990, oleh Zaiton Abd. Rahman.
6. Perkamusan dan perancangan bahasa Melayu: persoalan dan cabaran, oleh Noresah Baharom dan Rusli Abdul Ghani.
7. Isu-isu peristilahan: suatu penjelasan, oleh Othman Ismail.
8. Tesaurus?, oleh Zahrah A. Ghafur dan lain-lain.
9. Pelaksanaan bahasa dalam tahun 1990-an, oleh Aishah bt. Mahdi.

### **Seminar Penghayatan Islam**

(8-10 Disember 1989: Kuala Lumpur)

fBP15 SPI

Penganjur: Asrama Kelima, Universiti Malaya

1. Ketenteraan dan keselamatan di dalam jihad, oleh Ustaz Mohd. Akhir Yaakob.
2. Tauhid dalam 'aqidah Islamiah' penghayatan dan persoalan, oleh Muhammad 'Uthman El-Muhammady.
3. Undang-undang Islam: keunggulannya dalam menyelesaikan masalah ummah, oleh Abd. Halim Muhammady.
4. Pendidikan Islam dalam kurikulum bersepadu sekolah menengah: ke arah amalan dan penghayatan nilai Islam, oleh Tuan Haji Zainal Abidin b. Haji Abd. Kadir.
5. Pengenalan kepada penyelesaian persoalan ekonomi menurut Islam, oleh Ustaz Zakaria Man.
6. Perubatan: konsep dan tuntutan dalam Islam, oleh Hj. Mohd. Hatta Ramli.
7. Kekeluargaan dalam Islam, oleh Md. Hashim Yahaya.



**Seminar Penulisan dan Kritikan Puisi**  
(9 Disember 1989: Kuala Lumpur)  
fPL5131.2 SPKP

Penganjur: Jabatan Penulisan dan Ikatan Sastera  
Universiti Malaya

1. Puisi di Malaysia: satu tanggapan umum, oleh Dharmawijaya.
2. Tentang proses penciptaan puisi, oleh Abdullah Tahir.
3. Kritikan puisi di Malaysia, oleh Rahman Shaari.
4. Kemala dalam Kemala, oleh Anuar Nor Aral.
5. Penyair Malaysia generasi baru, oleh A. Ghafar Ibrahim.

**Seminar Kaunseling dan Kemanusiaan**  
(9-10 Disember 1989: Serdang)  
fBF637 C6SKK

Penganjur: Bahagian Perhubungan Awam, Universiti Pertanian Malaysia, 43400 Serdang

1. Pre-retirement planning, by Shafie bin Mohd. Hanapiah.
2. Kejemuan/ketenatan dalam pekerjaan (burnt out), oleh Shamshudin Hussin.
3. Persoalan nilai dan sikap dalam potensi pembangunan manusia, oleh H.M. Dahlan.
4. Penggunaan dadah dan potensi manusia, oleh Abdullah Al-Hadi Haji Muhamed.
5. Potensi manusia di abad ke 21, oleh Y. Bhg. Tan Sri Dr. Arshad Ayub.
6. Pergerakan pengguna hak/tanggungjawab pengguna menggunakan potensi manusia untuk perjuangan kepenggunaan, oleh Joe Selvaretnam.
7. Sexual harassment (diskriminasi kejantinaan), by M. Ramachandran.
8. Responding to domestic violence in Malaysia: realities, causes and strategies, by Rashidah Abdullah.
9. Pengangguran, oleh Gurdev Singh.

**World Human Rights Day Seminar**  
(10 Disember 1989: Kuala Lumpur)  
fJC585 WHRDS

Penganjur: Bar Council Malaysia, No.5, Jalan Tun Perak, 50050 Kuala Lumpur

1. Freedom of expression - reality in Malaysia, by Tan Sri Ahmad Noordin.

2. Law relating to press freedom in Malaysia, by Shad S. Faruqi.
3. Should there be any restrictions to freedom of expression? What, then, should be the basis and extent of such restrictions?, by Lee Min Choon.
4. Freedom of expression: a reality in Malaysia?, by K. Das.
5. Freedom of expression: a reality in Malaysia? by Theatre practitioner's view point, by Mano Maniam.
6. Freedom of expression: views from academia, by Wan Abdul Manan bin Wan Muda.
7. The media and the powers-that-be, by Chandra Muzaffar.
8. Translated text of Mr. Hew Yoon Tat's speech.

**Seminar Pendidikan Awal Kanak-Kanak**  
(10 Disember 1989: Pulau Pinang)  
fLB1438 M4SPAK

Penganjur: Universiti Sains Malaysia, 11800 Pulau Pinang

1. Pendidikan awal kanak-kanak: pendekatan taman bimbingan kanak-kanak Islam Pusat Islam, Universiti Sains Malaysia, oleh Mohamed Talhah Idrus.
2. Taman Asuhan kanak-kanak Islam, oleh TASKI (ABIM).
3. Kurikulum pendidikan / pengajaran awal: satu pendekatan holistik, oleh Khadijah Zon, Zurida Ismail dan Fatimah Sallah.
4. Falsafah, tujuan dan pendekatan pendidikan awal kanak-kanak, oleh Fatimah binti Ali.

**Seminar Kebangsaan Pendidikan Guru**  
**Kementerian Pendidikan Malaysia**  
(11-13 Disember 1989: Melaka)  
fLB1727 M4SKPGKPM

Penganjur: Bahagian Pendidikan Guru, Kementerian Pendidikan Malaysia

1. Ucapan, oleh Puan Sri Datin Hafsa bt. Hj. Nasir.
2. Latihan perguruan asas sekolah rendah di maktab-maktab perguruan, oleh Puan Sri Datin Hafsa bt. Hj. Nasir.
3. Prestasi guru-guru lepasan maktab, oleh Dato Mohd. Diah bin Nordin.



4. Kemahiran guru mengendalikan pengajaran pembelajaran di bilik darjah, oleh Y.M. Tuan Haji Alias bin Harun.
5. Kesediaan guru mengendalikan penilaian berterusan di bilik darjah, oleh Abdul Rahman bin Ahmad.
6. Penyediaan guru dan budaya sekolah, oleh Hanafi Kamal.
7. Kemahiran dan kemampuan guru lepasan maktab memimpin aktiviti kokurikulum: satu kajian kes negeri, oleh Hj. Abu Tahir Lela.

**Pacific Trade and Development Conference**  
(18th: 11-14 December 1989: Kuala Lumpur)  
fHF1583 Z4P1PTDC

Penganjur: Institute of Strategic and International Studies (ISIS) Malaysia, No.1, Pesiaran Sultan Salahuddin, P.O. Box 12424, 50778 Kuala Lumpur

1. Keynote address, by Dato' Raja Ariffin bin Raja Sulaiman.
2. Models and issues of Pacific growth and macroeconomic performance, by Anne O. Krueger.
3. Inter-relationship between the world and Pacific economic performance, by Lawrence B. Krause and Mark Sundberg.
4. The United States in the world economy, by Barry P. Bosworth.
5. The Japanese economy and the economic development of the Pacific region, by Heizo Takenaka.
6. Macroeconomic developments and prospects in East Asia, by Yung Chul Park.
7. Macroeconomic management and policies of ASEAN countries in the 1980s, by Mari Pangestu.
8. The current account and Australian economic policy under the labor government, by R.G. Gregory.
9. Pattern of Asia Pacific economic growth and implications of the rise of the East Asian development model, by Tan Kong Yam.
10. Commodity market trends and policy responses, by Ronald C. Duncan.
11. Exchange rate regimes and practices - the case of Malaysia, by Dato Dr. S.Y. Lin.
12. Evolving patterns of comparative advantage in the Pacific countries, by Ippei Yamazawa, Kazuhiko Yokota and Akira Hirata.

13. Multilateralism, bilateralism and regionalism: a Pacific agenda, by H. Edward English and Murray G. Smith.
14. The Pacific in the 1990s, by Noordin Sopiee.
15. The EGOIN theory of development and underdevelopment, by Lim Chong Yah.

**Persidangan MIMOS**

(15-17 Disember 1989: Port Dickson)  
fT177 M4PMIMOS

Penganjur: Institut Sistem Mikroelektronik Malaysia, Jabatan Perdana Menteri, Tingkat 7, Bangunan Exchange Square, Off Jalan Semantan, Bukit Damansara, 50490 Kuala Lumpur

1. Speech, by Tan Sri Zainal Abidin Sulong.
2. Strategi penyelidikan dan pembangunan MIMOS dalam tahun 90-an, oleh Tengku Mohd. Azzman Shariffadeen.
3. Sains dan teknologi dalam pembangunan negara, oleh Dato' Omar Abdul Rahman.
4. Dasar dan strategi pembangunan perindustrian negara, oleh Mohd. Yusof Ismail.
5. The entrepreneurs' point of view on the development of the indigenous electronics industry, by Tan Sri Shamsuddin Abdul Kadir.
6. R & D culture - SIRIM's experience, by Ahmad Tajuddin Ali.
7. Budaya penyelidikan dan pembangunan, oleh Tengku Mohd. Azzman Shariffadeen.
8. Forum menggunakan hasil P & P untuk pembangunan perindustrian.
9. Bengkel Pengurusan projek; Pembangunan teknologi; Isu-isu sosio-ekonomi; Interaksi antara industri - MIMOS.

**Seminar Pengukuhan dan Penghayatan Islam**  
(22-24 Disember 1989: Sekudai, Johor)  
fBP15 SPPI

Penganjur: Jabatan Pendidikan Islam, Pusat Pengajian Kemanusiaan, Universiti Teknologi Malaysia, Karung Berkunci 791, 80990 Johor Bahru

1. Peranan dan pendekatan institusi sosial dalam pembentukan masyarakat berakhlak, oleh Osman Bakar.



2. Ahli sunnah wa al-Jamaah dalam usaha penyatuan Ummah, oleh Ust Muhammad Uthman al-Muhammadi.
3. Islam dan cabaran masa kini: serangan pemikiran anti Islam dan budaya permissives, oleh Ust. Abd. Ghani Shamsudin.
4. Peranan tasauf dalam kehidupan harian, oleh Tuan Haji Said Ibrahim.

**Conference on Industrial Cooperation  
Between Malaysia and Finland**  
(4 January 1990: Kuala Lumpur)  
fHF1594.6 Z4F5CICBM

Penganjur: Embassy of Finland, 15th Floor, Plaza MBF, Jalan Ampang, 50450 Kuala Lumpur

1. Malaysian forest industry towards the new century, by Jukka Nyrola.
2. Study on business and cooperation opportunities in Malaysian wood industry, by Harri Pelkonen.
3. Marketing development of plastics and chemicals in South East Asian countries in the 1990's, by J. Viinanen.
4. Options and opportunities of Finnish cooperation in oil and gas based industries in Malaysia and South-East Asia, by Jussi Rinta.
5. Recent developments in the glue resins at Neste Resins Group.
6. Tampella Ltd - power industry, by J. Alajarvi.
7. Biomass energy from fluidized bed combustion, by Terho Jaatinen.
8. Rauma-Repola's activities in forest-related industries.

**Seminar Pemikiran Melayu**  
(19-21 Januari 1990: Kuala Lumpur)  
fDS595.2 M2SPM

Penganjur: Persatuan Bahasa Melayu Universiti Malaya

1. Islam dalam konteks kebudayaan Melayu, oleh Tan Sri Dato' Ainuddin Wahid.
2. Islam dan ibadah dalam kontek kebudayaan Melayu, oleh Dato' Haji Dusuki Haji Ahmad.
3. Isu kepimpinan politik Melayu kini, oleh Datuk Abdullah Hj. Ahmad Badawi.

4. Kepimpinan politik Melayu: antara pembabitkan kiri dan Islamisasi, oleh Mohamad Abu Bakar.
5. Kemunduran Melayu dan penyelesaiannya, oleh Datuk Musa Hitam.
6. Dari "Colonial Malaysian Malaysia" ke "National Malaysian Malaysia", oleh Malik Munip.
7. Isu-isu bahasa Melayu kini, oleh Nik Safiah Hj. Ab. Karim.
8. Laras: alternatif penguasaan bahasa yang berkesan, oleh Nuwairi bin Haji Khaza'ai.

**Seminar on the Teaching of English  
as a Second Language**

(22-24 January 1990: Genting Highlands)  
fLB1579 E5STESL

Penganjur: Institut Aminuddin Baki, Seri Layang, Genting Highlands, 69000 Pahang Darul Makmur

1. Attitudes in the learning of English among Malaysian students: a case study, by Prof. Datuk Dr Asmah Haji Omar.
2. Perception of learners' motivation in relation to competencene in English as a second language, by Jamali bin Ismail.
3. Some strategies for success in the KBSM English classroom, by Dhamayanthi V. Nathan.
4. How to use the video to teach English, by Wan Chik Ibrahim.
5. Towards more reffective strategies to promote and develop reading in English, by Safiah binti Osman.
6. Grammar, texts and (ESL) texts, by Abdul Aziz Idris.
7. The implementation of a self-access programme for language learning in teacher training colleges, by Sri Hajah Zabidah binti Datuk Haji Awang Ngah.
8. Strategies in improving ESL teacher-training in Malaysia, by Loga Baskaran.
9. Teaching English under the KBSR, by Siti Hawa bte Ahmad.
10. Is it possible to raise the standard of English in Malaysia?, by Hyacinth Marie Gaudart.
11. Teaching oral skills in English: problems and solutions, by Carmel Heah Lee Hsiah.
12. Using non-traditional material of enrichment activities in the teaching of English as a second language, by Renu Kailsan.



**Konvensyen Pembangunan Bumiputera  
Pulau Pinang**

(9-11 Februari 1990: Pulau Pinang)  
fHC445.5 Z7P3KBPBPP

Penganjur: Bahagian Penyelarasan Penyertaan Bumiputera, Unit Penyelarasan Pelaksanaan, Jabatan Perdana Menteri, Bangunan Yayasan Bumiputera, No.70, Jalan Sri Bahari, 10050 Pulau Pinang

1. Kedudukan semasa perkembangan industri dan perdagangan di negeri Pulau Pinang, oleh Datuk Noor Ahmad Mokhtar bin Haniff.
2. Analisis status sosioekonomi Melayu Pulau Pinang, oleh Hj. Zainul Ariff bin Hj. Hussain.
3. Status, permasalahan dan cadangan pembangunan pertanian Pulau Pinang, oleh Dato Dr. Hj. Mohd. Yusof b. Hashim.
4. Analisa geopolitik: impak pembangunan ke atas kepentingan masyarakat Melayu Pulau Pinang, oleh Mansor Haji Othman dan Haron Haji Din.
5. Alqardhul Hassan di Seberang Perai: antara harapan dan pencapaian, oleh Sukor Kasim.
6. Meningkatkan penyertaan bumiputera dalam industri pelancongan menerusi sistem pengangkutan, oleh Ibrahim Wahab.
7. Pembangunan sektor padi negeri Pulau Pinang, oleh S.F. Farooq dan Supaad M.A.
8. Ke arah mempertingkatkan penyertaan bumiputera dalam bidang perusahaan dan perindustrian, oleh Abdul Karim bin Haron.
9. Sektor padi di Pulau Pinang, oleh Datuk Hj. Ahmad bin Salleh.
10. Penempatan bersepadu luar bandar melalui pendekatan unit terancang pembangunan - penumpuan kepada keperluan perumahan terupaya untuk golongan miskin di negeri Pulau Pinang, oleh Kamarudin bin Mohd. Nor dan Yaakob bin Nordin.
11. Penggubalan strategi dan alternatif pelaksanaan di dalam sektor industri dan perdagangan, oleh Tuan Haji Abd. Ghani bin Sulaiman.
12. Ekuiti dan penyertaan bumiputera dalam sektor korporat kini dan strategi selepas 1990, oleh Dato' Abdul Khalid bin Ibrahim.
13. Penyertaan bumiputera Pulau Pinang dalam bidang perdagangan dan perkhidmatan (cabaran dan halacara), oleh Haji Mohd. Ridzuan Abdul Halim.
14. Hartanah dan perumahan, oleh Zulkefli bin Haji Kamaruzzaman.
15. Penggubalan strategi dan alternatif pelaksanaan di dalam sektor pertanian: gunatanah, oleh Datuk Mohamed Ishak bin Haji Mohamed Ariff.
16. Sektor industri dan perdagangan penggubalan strategi dan alternatif pelaksanaan di dalam sektor industri dan perdagangan: ekuiti dan penyertaan, oleh Datuk Mohd. Desa Pachi.
17. Peluang-peluang dan kemudahan-kemudahan yang disediakan oleh Kementerian Perdagangan dan Perindustrian Malaysia untuk usahawan bumiputera, oleh Mahanum binti Itam.
18. Industri ternakan - potensi dan peluang, oleh Dato' Hj. Abd. Rashid bin Hj. Abd. Rahman.
19. Ekuiti dan penyertaan, oleh Mohd. Ibrahim bin Mohd. Zain.
20. Sektor hartanah dan perumahan: peranan Perbadanan Pembangunan Pulau Pinang, oleh Y.M. Tengku Idaura bt Tengku Ibrahim.
21. Perdagangan dan perkhidmatan, oleh Mohd. Hanafiah b. Omar.
22. Ternakan dan perikanan, oleh Tuan Haji Abdul Wahab bin Adam.
23. Peluang penyertaan bumiputera dalam sektor pertanian, oleh Datuk Dr Ahmad Mustaffa b. Hj. Babjee.
24. Hartanah dan perumahan, oleh Abdul Razak Hussain.
25. Ekuiti dan penyertaan, oleh Zahrain b. Mohd. Hashim.
26. Perdagangan dan perkhidmatan, oleh Abdul Rahman Maidin.
27. Pelancongan, oleh Khalid bin Ibrahim.
28. Bengkel Hi-tech dan Hiliran, oleh Tajuddin Carrim.
29. Penyertaan bumiputera dalam industri, oleh Muzalifah Yusoff.
30. Ternakan perikanan di Pulau Pinang, oleh Jamaluddin bin Mat.
31. Industri pelancongan Pulau Pinang, oleh Syed Mohd. Aidid.
32. Peluang dan cabaran, oleh Munir bin Majid.
33. Keperluan industri pelancongan, oleh Wan Mahmud bin Ahmad.
34. Penyusunan semula ekuiti, oleh Ismail Md. Salleh.
35. Penyertaan dalam bidang industri kini, oleh Ahmad Ghazali Md. Kassim.



**Seminar on Marketing Opportunities for  
Small and Medium-Sized Industries**  
(13 February 1990: Kuala Lumpur)  
fHD2346 M4SMOSMSI

Penganjur: Federation of Malaysian Manufacturers, 17th Floor, Wisma Sime Darby, Jalan Raja Laut, 50350 Kuala Lumpur

1. Galakan ke atas pembelian tempatan dan eksport bagi industri kecil dan sederhana, oleh Wan Yacob bin Hassan.
2. Opportunities for supporting services to the semi-conductor and electronics industries, by Jamal Maarof.
3. Utilisation of local sub-contracting services - experiences of multinational companies, by Yukio Shohtoko.
4. Industrial linkages between SMIs and large industries - the Teck See Plastic experience, by Michael Sng.
5. Opportunities and prospects for small and medium-scale industries in automotive components industry, by Tuan Haji Abdul Rahim Haji Hussein.

**Seminar on Loss Prevention -  
Towards a Safer Tomorrow**  
(27-28 February 1990: Kuala Lumpur)  
fT55 A1SLP

Penganjur: The Malaysian Insurance Institute, 32, Jalan 1/82B, Bangsar Utama, 59000 Kuala Lumpur

1. Keynote address, by Dato' Dr. Lin See Yan.
2. Loss prevention - the Australian experience, by Max R. Pallavicini.
3. Loss prevention - the US experience, by August Kolster.
4. Development of legislations on occupational safety and health in Malaysia, by Abdul Jalil Mahmud.
5. Recent development in hazardous wastes management and opportunities for the insurance industry, by Tan Meng Leng.

6. Case studies on major construction accidents, by Kurt Oberschelp.
7. Case study of major industrial accidents, by E.G. Owen.
8. Fire safety in public places, by M. Chelliah.
9. Crime prevention and security protection in Malaysia: Issues and proposals.
10. Loss prevention - the human factor, by John Rhind-Tutt.
11. Arriving in good shape - how to prevent cargo and transport loss.
12. Machinery loss prevention, by J.B. King.
13. Technological advancements in fire protection engineering, by August Kolster.

**Seminar Model Perlembagaan Islam**  
(2-4 Mac 1990: Kuala Lumpur)  
fBP144 SMPI

Penganjur: Persatuan Ulama' Malaysia, No.4, Tingkat 3, Jalan 14/22, 46100 Petaling Jaya

1. Ucapan, oleh Tuan Haji Ahmad Awang.
2. The council of guardians under the constitution of the Islamic Republic of Iran, by Husayn Mehrpur.
3. Pengisytiharan perlembagaan Islam, oleh Ali Jerishah.
4. Satu contoh perlembagaan Islam.
5. Model perlembagaan Islam: perspektif Malaysia (beberapa pandangan mengenai cara mencapainya), oleh Haji Sulaiman Abdullah.
6. Perlembagaan Malaysia masa hadapan, oleh Ahmad Ibrahim.
7. A model of an Islamic constitution.
8. Perlembagaan Republik Islam Iran, oleh Ustaz Abdul Ghani Shamsudin & Othman Khalid.
9. Contoh perlembagaan Islam, oleh Mustafa Kamal Wasfi.
10. Ma'alim al-Dustur al-Islami al-Irani.



## Sumber-Sumber Maklumat Terpilih/ Selected Sources of Information

Direktori Penulis Malaysia: Perpustakaan Dewan Bahasa dan Pustaka. Disusun oleh Fatimah Zahrin Mohd Taib & Hadijah Sani Ahmad. Kuala Lumpur: Dewan Bahasa dan Pustaka, 1990. (111 m.s.)  
Z 3249 M2 Fatzmt

Terbitan ini telah dikeluarkan oleh Dewan Bahasa dan Pustaka pada tahun 1990 atas dasar untuk membantu para penulis, penyelidik atau sesiapa sahaja yang memerlukan kepada maklumat-maklumat ringkas berkaitan penulis-penulis yang terdapat di Malaysia. Terbitan ini dirasakan penting memandangkan dewasa ini pertambahan penulis-penulis tanahair begitu ketara sekali, oleh kerana itu daya usaha yang positif ditunjukkan oleh Dewan Bahasa dan Pustaka dalam menerbitkan Direktori ini haruslah dicontohi oleh semua pihak.

Proses penerbitan Direktori ini bermula pada tahun 1986, di mana pihak Dewan Bahasa dan Pustaka telah mengirinkan sebanyak 4,400 borang kepada para penulis tanahair. Walau bagaimanapun tidak semua penulis menerima borang tersebut kerana terdapat kriteria yang tertentu yang menjadi garispanduan bagi pemilihan ini di mana para penulis berkenaan perlulah mempunyai tidak kurang dua karya yang tersiar

dalam majalah, akbar, buku maupun antologi akan disenaraikan di dalam direktori ini. Tetapi kriteria yang paling penting ialah karya-karya yang dihasilkan oleh penulis berkenaan mestilah dalam Bahasa Malaysia.

Bagi memudahkan para pengguna mengakses segala maklumat yang terdapat dalam Direktori setebal 111 halaman ini, susunannya ialah mengikut susunan abjad nama penulis. Antara maklumat penting yang boleh diperolehi ialah nama penulis yang sebenar, nama samaran mereka jika ada, tarikh lahir, tempat lahir, nombor talipon pejabat atau rumah, alamat terkini, bidang penulisan, jawatan atau pekerjaan serta persatuan yang mereka sertai.

Selain daripada itu untuk menjimatkan masa dan memudahkan pencarian singkatan-singkatan tertentu telah digunakan. Di bahagian belakang Direktori ini iaitu di mukasurat 99 - 111, disediakan indeks penulis berkenaan bagi memudahkan pengguna mendapatkan maklumat penulis tersebut.

Kesimpulannya, Direktori yang memuatkan 1,294 maklumat penulis atau pengarang Melayu ini adalah merupakan sumber rujukan yang penting bagi dunia kesusasteraan Malaysia.

Pauziaah Mohamad  
Bahagian Koleksi Kebangsaan



# Berita Ringkas/News in Brief

## Pelawat

Dr. Kang-Hyuk Lee, Presiden Hankuk University of Foreign Studies dan isterinya; Prof. Changsung Choi dan isterinya telah melawat Perpustakaan pada 14hb. Januari 1991. Mereka diiringi oleh Encik Kim, Cultural Attache, Korean Embassy dan dua orang penuntut Universiti Malaya sebagai penterjemah.

Encik Nigel Carr, Managing Director, Nigel Carr Publishers Consultants telah melawat dan berjumpa Ketua Pustakawan pada 24hb. Januari 1991.

Encik R. J. Johnson dari Jabatan Sejarah, The University of Queensland telah melawat Perpustakaan pada 30hb. Januari 1991. Beliau sempat merujuk beberapa bahan di Bahagian Koleksi Kebangsaan, Perpustakaan Utama.

Universiti Brunei Darussalam telah mengirinkan satu rombongan tiga orang yang terdiri daripada Haji Hamdan Haji Abdul Rahman dari Jabatan Bahasa Melayu & Linguistik, Haji Ali Abdul Kayum dari Perpustakaan dan Haji Abd. Hamid Jaludin dari Jabatan Kesusasteraan Melayu ke Universiti Malaya dalam rangka lawatan mereka ke sini. Rombongan tersebut telah melawat Perpustakaan Utama pada 7hb. Mac 1991, jam 9.00 pagi. Mereka berharap lawatan pembelajaran ini akan memberikan mereka maklumat, antara lain mengenai objektif, fungsi dan organisasi; operasi, khususnya berkaitan dengan pemerolehan, pemeliharaan dan pemanfaatan manuskrip lama; dan kordinasi dalaman & luaran serta rangka kerjasama setempat, serantau dan antarabangsa.

Encik Atsushi Nezu daripada Graduate School of International Relations, International University of Japan telah melawat Perpustakaan pada 26hb. Mac, 1991.

Encik Tooru Nomura Vimala dari Keio University dan juga Cik Atsuko Nenuno dari Kyoto University telah melawat Perpustakaan juga pada 26hb. Mac, 1991.

## Pameran Sempena Minggu Bahasa Arab

Perpustakaan Akademi Islam, Nilam Puri Kelantan telah mengadakan pameran bersempena dengan Minggu Bahasa Arab bertajuk "Bahasa Arab: Disiplin-Disiplin Penting serta Cabang-Cabangnya" pada 9 hingga 17 Februari 1991 bertempat di Dewan Johor, Akademi Islam Universiti Malaya, Nilam Puri. Bahan-bahan yang dipamerkan meliputi buku-buku dalam pelbagai bidang penting Bahasa Arab seperti nahu, saraf, balaghah, syair dan lain-lain serta bacaan (qiraah) dan sastera Arab (Jahilliah dan Islam). Pita-pita kaset bagi pembelajaran Bahasa Arab, dialek Arab Mesir serta dialek Arab Teluk dan Arab Saudi turut dipamerkan.

## Pameran Koleksi Etnografi Melayu I

Satu pameran Koleksi Etnografi Melayu I, Akademi Pengajian Melayu telah diadakan pada 4 - 18 Mac 1991 di aras 3, bahagian Koleksi Etnografi Melayu, Perpustakaan Utama, Universiti Malaya. Pameran selama 15 hari ini memperlihatkan sebahagian khazanah yang ada sejak usaha pengumpulan koleksinya dimulakan oleh Jabatan Pengajian Melayu, melalui daya usaha Prof. Dr. Haji Mohd Taib Osman. Penumpuan pameran adalah merangkumi 5 bidang utama seperti alat-alat muzik, senjata, barang-barang yang diperbuat daripada tembaga, barang-barang yang dihasilkan daripada mengkuang dan juga labu. Pameran yang telah dirasmikan oleh Prof. Dr. Mohd Taib Osman ini adalah merupakan langkah pertama untuk menyebarkan maklumat yang ada di Koleksi Etnografi Melayu ini kepada masyarakat umum.

## Pameran Komputer

Perpustakaan Universiti Malaya kini berada dalam peringkat akhir ke arah pengkomputeran sistem perpustakaan. Sejajar dengan ini, satu pameran komputer telah diadakan di aras 2, bangunan Perpustakaan Utama. Maklumat-maklumat tentang perkembangan kegunaan sistem komputer di perpustakaan, sejarah awal pengkomputeran perpustakaan hingga kini, sistem perkakasan komputer seperti komputer mini vax 6000 model 410, kawat perhubungan, saluran terminal dan sistem perisian perpustakaan Atlas boleh diper-



olehi dari pameran ini. Selain daripada itu turut juga dipamerkan ialah gambarajah-gambarajah rangkaian sistem komputer perpustakaan di mana ianya dapat membantu para pengunjung pameran memahami dengan lebih mendalam lagi tentang pengkomputeran perpustakaan.

### **Pameran Penyalahgunaan Dadah**

Satu pameran berkaitan dengan penyalahgunaan dadah telah diadakan pada 29hb. Oktober - 10hb. November 1990 bertempat di Perpustakaan Utama. Pameran ini adalah merupakan lanjutan daripada pameran yang telah diadakan bersempena "Seminar on Prevention of Drug Abuse: Possibilities and Limits" pada 23hb. Oktober 1990. Pameran yang dianjurkan bersama dengan Lincoln Resource Centre serta Pasukan Petugas Anti Dadah ini mempamerkan buku-buku, makalah, risalah, poster, model dan kit yang berjumlah lebih dari 250 bahan kesemuanya. Satu aspek yang menarik yang boleh diperolehi daripada pameran ini ialah perkhidmatan penyiasatan maklumat menggunakan pangkalan data IDL (International Drug Library) yang mengandungi 5,000 abstrak, 400 imej dan 30,000 mukasurat dokumen.

### **Pameran Pembasmian Buta Huruf**

Atas kesedaran masih wujudnya gejala buta huruf, satu pameran Pembasmian Buta Huruf telah diadakan pada 10hb. Disember 1991 sehingga 10hb. Januari 1991 di tingkat 1, Perpustakaan Utama.

### **Ceramah**

Bertempat di Mahkamah Moot, Fakulti Undang-Undang, Khamis, 31hb. Januari 1991, Fakulti Undang-Undang dengan kerjasama Perpustakaan Undang-Undang telah menganjurkan satu ceramah mengenai Akta Hakcipta 1987 bertajuk "Copyright Act 1987 and its Impact on the Institutions of Higher Learning". Penceramah jemputan ialah Dr. Khaw Lake Tee seorang pensyarah dari Fakulti Undang-Undang, Universiti Malaya yang pakar dalam bidang harta intelektual.

### **Kenderaan Baru**

Perpustakaan telah menerima sebuah van baru jenis Toyota Liteace, No. Pendaftaran BCR 1087 pada 22hb. Februari 1991.

## **HAL EHWAL KAKITANGAN/STAFF MATTERS**

### **Kakitangan Baru**

Cik Pauziaah Bt Mohamad, Pustakawan Tingkatan Biasa, telah melaporkan diri untuk bertugas pada 2hb Januari 1991. Beliau ditempatkan di Bahagian Koleksi Kebangsaan, Perpustakaan Utama.

Cik Haliza Yahya, Pustakawan Tingkatan Biasa (Sementara) di Perpustakaan Perubatan telah mendapat jawatan tetap di Perpustakaan Perubatan bermula dari tarikh beliau memegang jawatan sementara iaitu pada 1hb. Jun 1989.

Puan Nor Edzan Binti Haji Che Nasir, Pustakawan Tingkatan Biasa telah melapurkan diri pada 1hb. April 1991. Beliau telah ditempatkan di Perpustakaan Undang-Undang.

### **Perlanjutan Perkhidmatan**

En Yeoh Hooi Hong telah dilanjutkan tempoh perkhidmatannya dari 1hb. Februari 1991 sehingga 31hb. Julai 1991.

### **Persaraan**

Pihak perpustakaan mengucapkan selamat bersara kepada Puan Mercy Selvaratnam. Beliau telah menamatkan perkhidmatannya pada 8hb. April 1991.

### **Kursus**

Encik Abu Hussin Mohd Yassin telah menghadiri Kursus Perhubungan Awam bagi Kakitangan Kaunter, 14 - 18 Januari di Perpustakaan Negara Malaysia.



**KEKAL ABADI: Berita Perpustakaan Universiti Malaya**

ialah satu forum bagi perbincangan-perbincangan mengenai bibliografi dalam ertikata yang lebih luas sebagai sains kajian buku dari semua segi, termasuk senarai rujukan bahan-bahan mengenai sesuatu perkara tertentu; catatan bibliografis dan sejarah mengenai perolehan-perolehan istimewa; dan makalah-makalah berkenaan koleksi-koleksi khas dan bahan-bahan penting yang terdapat dalam perpustakaan ini. Juga termuat ialah berita-berita mengenai perkhidmatan perpustakaan, penggunaan teknologi dalam perpustakaan dan kegiatan ikhtisas kakitangan. Ia diterbitkan empat kali setahun pada bulan Mac, Jun, September dan Disember.

*Kekal Abadi* diindeks dalam *Indeks Majalah Malaysia* (terbitan Perpustakaan Negara Malaysia) dan *LISA: Library & Information Science Abstracts* (terbitan Library Association, London).

Institusi yang inginkan senaskhah majalah ini, sila kirimkan nama dan alamat kepada Ketua Pustakawan, Universiti Malaya.

Lembaga Pengarang menjemput makalah-makalah dan catatan-catatan yang bercorak bibliografi dan mengenai ilmu perpustakaan. Bahasa perantaraan utama ialah Bahasa Malaysia, tetapi Bahasa Inggeris juga boleh dipertimbangkan. Manuskrip-manuskrip hendaklah ditaip pada kertas A4 dengan melangkaui dua baris dan dialamatkan kepada Ketua Pustakawan Universiti Malaya. Makalah-makalah dalam Bahasa Inggeris mesti disertai dengan abstraknya sepanjang 100 patah perkataan dalam Bahasa Malaysia. Saguhati tidak dibayar. Penulis akan menerima sepuluh naskhah keluaran dalam mana makalahnya diterbitkan. Penulis-penulis adalah bertanggungjawab kepada isi kandungan makalah-makalah mereka.

Tarikh akhir penerimaan manuskrip:

- 1 Februari bagi keluaran bulan Mac
- 1 Mei bagi keluaran bulan Jun
- 1 Ogos bagi keluaran bulan September
- 1 November bagi keluaran bulan Disember

Jil. 1 bil. 1 diterbitkan pada Mac 1982.

Jil. 10 bil. 2 akan diterbitkan pada Jun 1991.

Lembaga Pengarang: Andrew Lee, Pauziaah Mohamad, Mohd. Jalaludin bin Hj. Musa, Noriyah Md. Nor, Vivien Kong Leng Yam, Komodhi Thaveegan, Norehan Ahmad, Tan-Lim Suan Hoon, Tunku Noraidah Tuanku Abdul Rahman, Zaiton Osman.

Penasihat: Khoo Siew Mun

Pengaturan taip: Perpustakaan Universiti Malaya

Pencetak: Jabatan Penerbitan Universiti Malaya, Lembah Pantai, 59100 Kuala Lumpur

Catatan: Akta Mesin Cetak dan Penerbitan 1984 (yang menggantikan Akta Mesin Cetak 1948) berkuatkuasa mulai 1hb. September, 1984 mengecualikan badan berkanun/jabatan kerajaan dari memperolehi permit penerbitan.



**Perpustakaan  
Universiti Malaya**

Spesifikasi Tawaran  
Tender Specifications

Februari 1989

**LAPORAN SOKONGAN**

Jawatankuasa Penilaian Tawaran Komputer  
Perpustakaan Universiti Malaya

**REPORT**

of the Tender's Evaluation Committee  
Library, University of Malaya

Ogos 1989

Dated this 26th day of December 1990

Between

COMPUTER PROCESSING SERVICES  
(MALAYSIA) SDN. BHD.

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UNIVERSITI MALAYA

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